WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Friday, December 10, 2004

Hide?	Set Name	Query	Hit Count
	DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR		
☐	L2	polyethyleneglycol adj3 (vinyl adj1 ether)	3
☐	L1	polyethyleneglycol adj3 vinyl$	128

END OF SEARCH HISTORY

Inventor Search

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1700mjr

PASSWORD:
* * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'HCAPLUS' AT 14:55:02 ON 09 DEC 2004
FILE 'HCAPLUS' ENTERED AT 14:55:02 ON 09 DEC 2004

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	17.73	23.47

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.70	-0.70

=> d ibib abs ind hitstr l6 1-1

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:63802 HCAPLUS
DOCUMENT NUMBER: 134:136683
TITLE: Vinyl ether lipids with cleavable hydrophilic headgroups
INVENTOR(S): **Thompson, David H.; Boomer, Jeremy A.; Haynes, Robert**
PATENT ASSIGNEE(S): Purdue Research Foundation, USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001005375	A1	20010125	WO 2000-US19430	20000717
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1202714	A1	20020508	EP 2000-947445	20000717
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.:		
US 1999-144301P	P	19990716
US 1999-146552P	P	19990730
WO 2000-US19430	W	20000717

OTHER SOURCE(S): MARPAT 134:136683

AB A novel amphiphilic lipid compound having a cleavable, vinyl ether linked hydrophilic headgroup is described. Also described are liposomes containing the vinyl ether lipid compound, which may be triggered to release their contents and/or permeabilize or fuse with target lipid membranes. The cleavable vinyl ether linkage allows the hydrophilic headgroup to be dissociated from the hydrophobic tail group(s) of the lipid compound to facilitate phase transitions in the lipid bilayer. Thus, 4-O-cholesteryl-(3Z-buten-1yl)-polyethylene glycolate (I) was prepared by the reaction of cholestoxy-3Z-buten-1-ol with M-PEG-acid. Pharmaceutical liposomes comprising 1,2-dioleoyl-sn-glycerophosphoethanolamine:I (98:2) and calcein were prepared Calcein release at pH = 4.5 and 7.4 in the presence and absence of of egg phosphatidylcholine was studied.

IC ICM A61K009-127

CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 23

ST pharmaceutical liposome calcein vinyl ether lipid

IT Drug delivery systems
(liposomes; vinyl ether lipids with cleavable hydrophilic headgroups)

IT Lipids, biological studies
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(vinyl ether lipids with cleavable hydrophilic headgroups)

IT Phosphatidylcholines, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vinyl ether lipids with cleavable hydrophilic headgroups)

IT **57-88-5**, Cholesterol, reactions **110-63-4**, 1,4 Butanediol, reactions **814-49-3**, Chlorodiethylphosphate **4004-05-1 18162-48-6**, tert-Butyldimethylsilyl chloride **22323-82-6 67665-18-3 87184-99-4** **259738-67-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(vinyl ether lipids with cleavable hydrophilic headgroups)

IT **6076-41-1P 69171-62-6P 85951-08-2P** **99605-29-5P 321674-31-1P 321674-32-2P** **321674-33-3P 321674-34-4P 321674-36-6P** **321674-37-7P 321674-38-8P 321674-39-9P** **321674-40-2P 321674-42-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(vinyl ether lipids with cleavable hydrophilic headgroups)

IT **237056-02-9P 321674-35-5P 321674-41-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(vinyl ether lipids with cleavable hydrophilic headgroups)

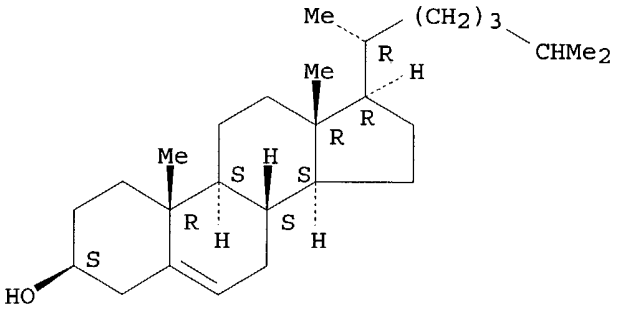
IT **1461-15-0**, Calcein
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vinyl ether lipids with cleavable hydrophilic headgroups)

IT **57-88-5**, Cholesterol, reactions **110-63-4**, 1,4 Butanediol, reactions **814-49-3**, Chlorodiethylphosphate **4004-05-1 18162-48-6**, tert-Butyldimethylsilyl chloride **22323-82-6 67665-18-3 87184-99-4** **259738-67-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(vinyl ether lipids with cleavable hydrophilic headgroups)

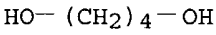
RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

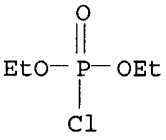
Absolute stereochemistry.



RN 110-63-4 HCAPLUS
CN 1,4-Butanediol (8CI, 9CI) (CA INDEX NAME)



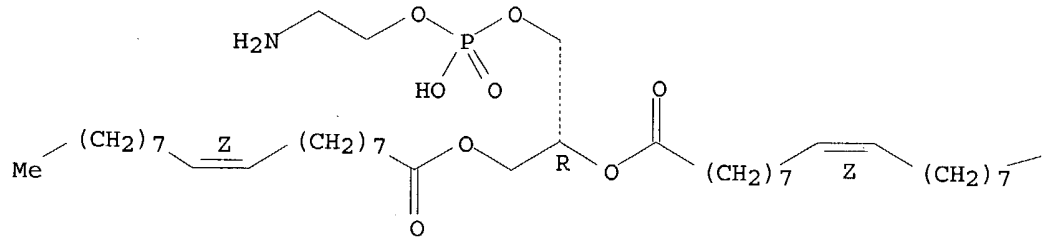
RN 814-49-3 HCAPLUS
CN Phosphorochloridic acid, diethyl ester (8CI, 9CI) (CA INDEX NAME)



RN 4004-05-1 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, (1R)-1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

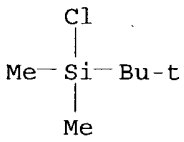
Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



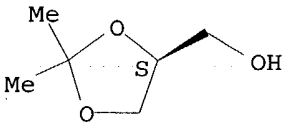
PAGE 1-B

RN 18162-48-6 HCAPLUS
CN Silane, chloro(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

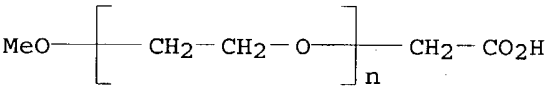


RN 22323-82-6 HCAPLUS
CN 1,3-Dioxolane-4-methanol, 2,2-dimethyl-, (4S)- (9CI) (CA INDEX NAME)

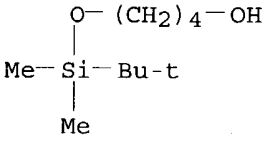
Absolute stereochemistry. Rotation (+).



RN 67665-18-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-methoxy- (9CI) (CA INDEX NAME)

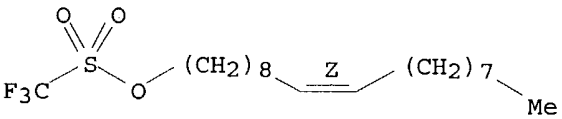


RN 87184-99-4 HCAPLUS
CN 1-Butanol, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)



RN 259738-67-5 HCAPLUS
CN Methanesulfonic acid, trifluoro-, (9Z)-9-octadecenyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

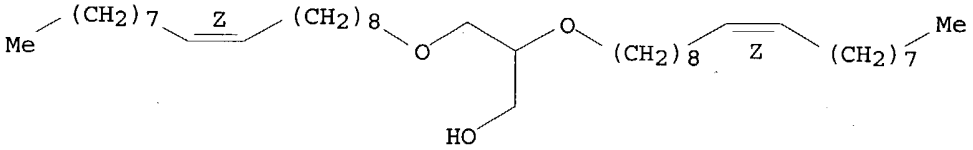


IT **6076-41-1P 69171-62-6P 85951-08-2P 99605-29-5P 321674-31-1P 321674-32-2P 321674-33-3P 321674-34-4P 321674-36-6P**

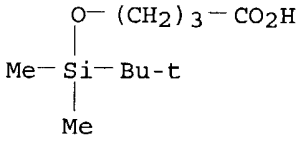
321674-37-7P 321674-38-8P 321674-39-9P
321674-40-2P 321674-42-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(vinyl ether lipids with cleavable hydrophilic headgroups)

RN 6076-41-1 HCAPLUS
CN 1-Propanol, 2,3-bis[(9Z)-9-octadecenyloxy]- (9CI) (CA INDEX NAME)

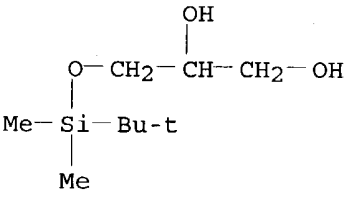
Double bond geometry as shown.



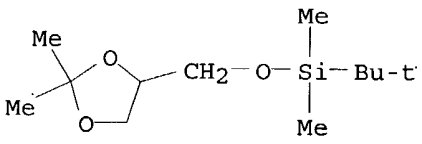
RN 69171-62-6 HCAPLUS
CN Butanoic acid, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)



RN 85951-08-2 HCAPLUS
CN 1,2-Propanediol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)

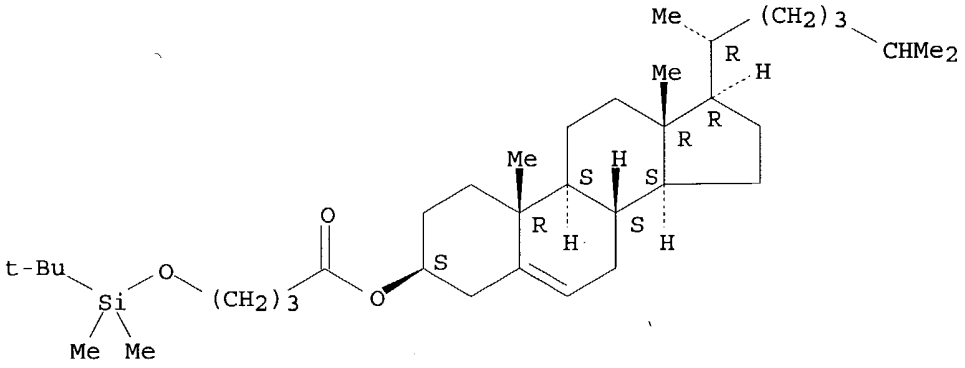


RN 99605-29-5 HCAPLUS
CN Silane, [(2,2-dimethyl-1,3-dioxolan-4-yl)methoxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



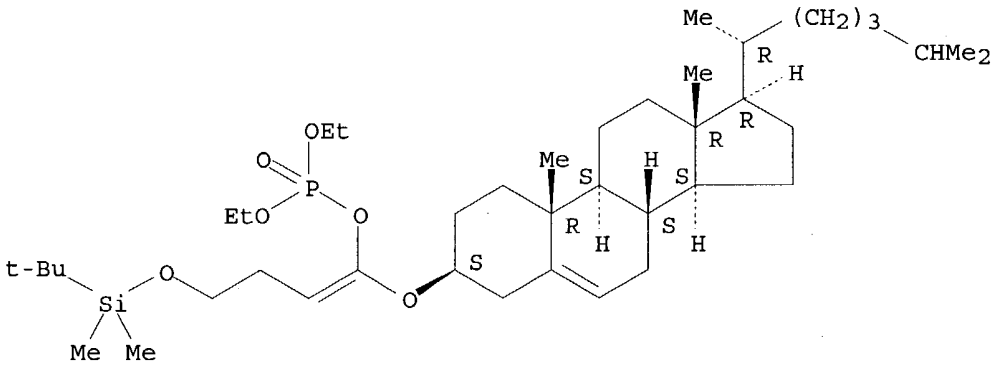
RN 321674-31-1 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]butanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



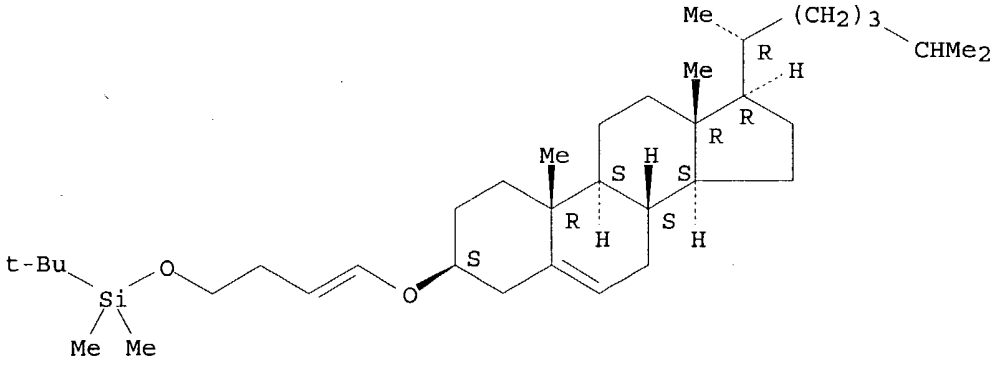
RN 321674-32-2 HCAPLUS
CN Phosphoric acid, 1-[(3β)-cholest-5-en-3-yloxy]-4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-1-butenyl diethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



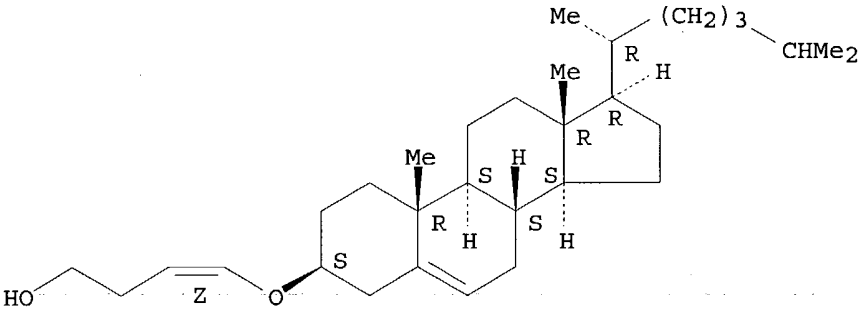
RN 321674-33-3 HCAPLUS
CN Silane, [[4-[(3β)-cholest-5-en-3-yloxy]-3-butenyl]oxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



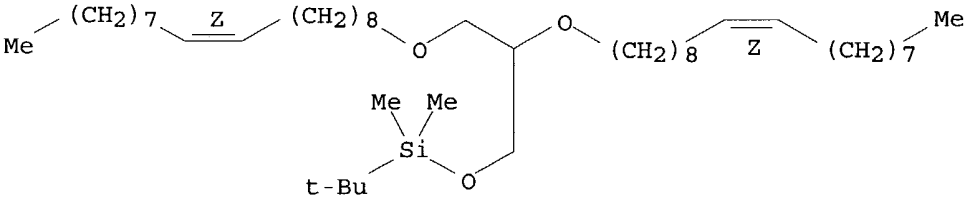
RN 321674-34-4 HCAPLUS
CN 3-Buten-1-ol, 4-[(3β)-cholest-5-en-3-yloxy]-, (3Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



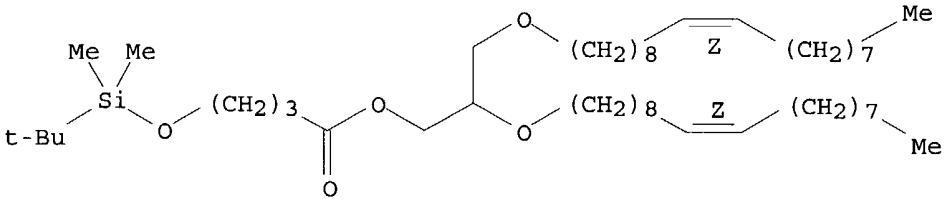
RN 321674-36-6 HCAPLUS
CN Silane, [2,3-bis[(9Z)-9-octadecenyloxy]propoxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



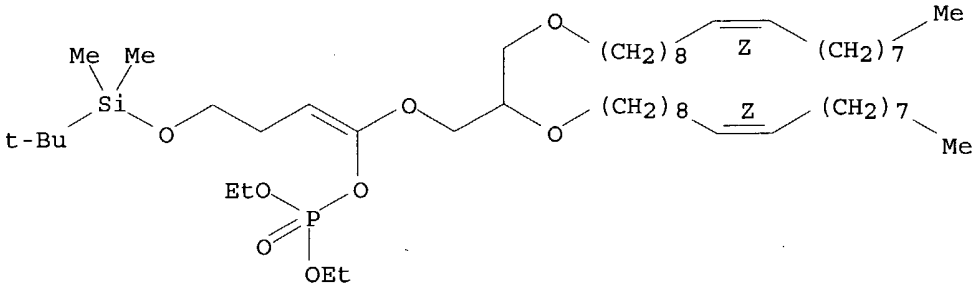
RN 321674-37-7 HCAPLUS
CN Butanoic acid, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, 2,3-bis[(9Z)-9-octadecenyloxy]propyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



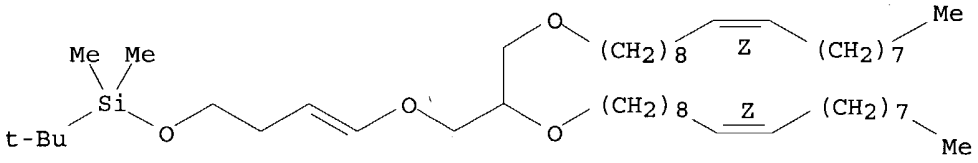
RN 321674-38-8 HCAPLUS
CN Phosphoric acid, 1-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-1-butenyl diethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



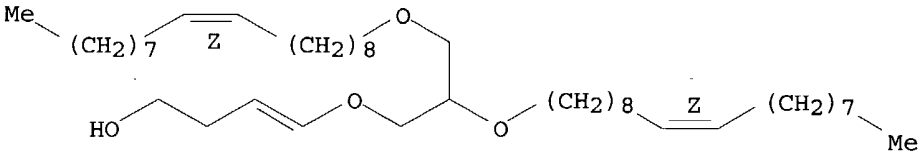
RN 321674-39-9 HCAPLUS
CN 4,9,13-Trioxa-3-silahentriaconta-7,22-diene, 2,2,3,3-tetramethyl-11-[(9Z)-9-octadecenyloxy]-, (22Z)- (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



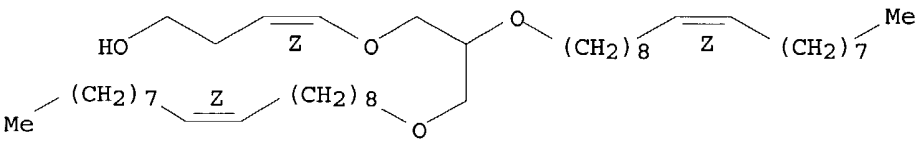
RN 321674-40-2 HCAPLUS
CN 3-Buten-1-ol, 4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



RN 321674-42-4 HCAPLUS
CN 3-Buten-1-ol, 4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-, (3Z)- (9CI) (CA INDEX NAME)

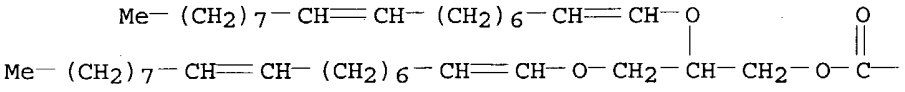
Double bond geometry as shown.



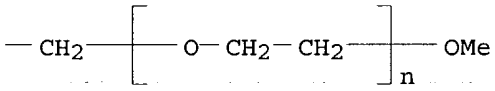
IT **237056-02-9P 321674-35-5P 321674-41-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(vinyl ether lipids with cleavable hydrophilic headgroups)
RN 237056-02-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-[2-[(2R)-2,3-bis[(1Z,9Z)-1,9-octadecadienyloxy]propoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A

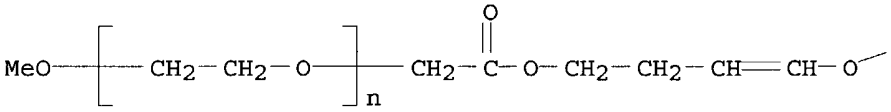


PAGE 1-B

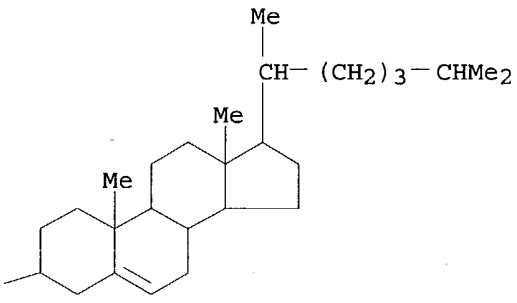


RN 321674-35-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(3Z)-4-[(3β)-cholest-5-en-3-yloxy]butoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



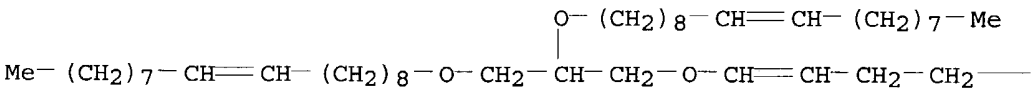
PAGE 1-B



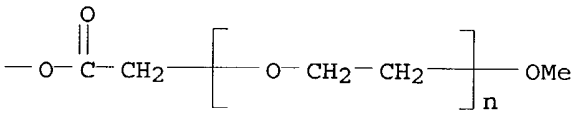
RN 321674-41-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[(3Z)-4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-3-butenyl]oxy]-2-oxoethyl]-ω-methoxy- (9CI)

(CA INDEX NAME)

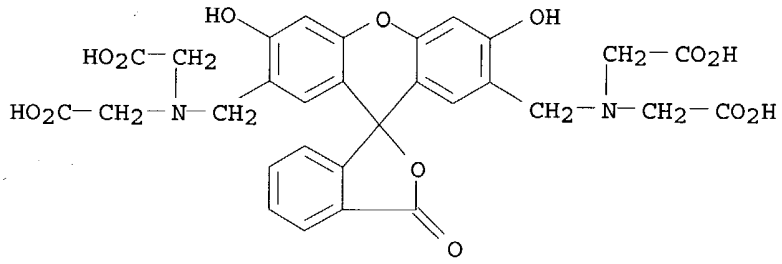
PAGE 1-A



PAGE 1-B



IT **1461-15-0**, Calcein
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vinyl ether lipids with cleavable hydrophilic headgroups)
RN 1461-15-0 HCAPLUS
CN Glycine, N,N'-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-2',7'-diyl)bis(methylene)]bis[N-(carboxymethyl)- (9CI) (CA INDEX NAME)



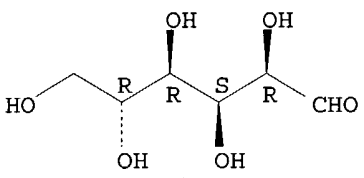
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

=> d ibib abs hitstr l18 1-30

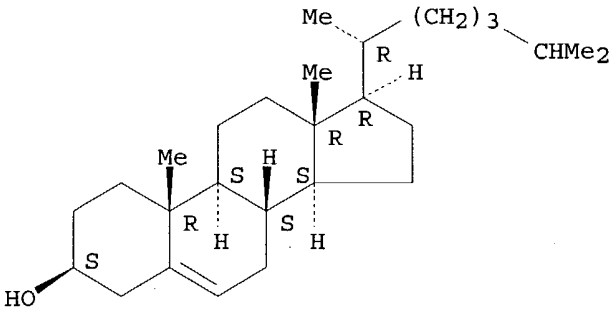
L18 ANSWER 1 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:527140 HCAPLUS
DOCUMENT NUMBER: 141:384600
TITLE: Probe entrapment by vesicular systems in relation with the properties of the **amphiphilic** film
AUTHOR(S): Oliger, Patrick; Fischer, Arnaud; Hebrant, Marc; Tondre, Christian
CORPORATE SOURCE: Laboratoire de Chimie Physique Organique et Colloidale, Unite Mixte de Recherche CNRS-UHP (UMR 7565), Universite Henri, Vandoeuvre-les-Nancy, 54506, Fr.
SOURCE: Progress in Colloid & Polymer Science (2004), 123, 48-51
CODEN: PCPSD7; ISSN: 0340-255X
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two different vesicular systems were studied as regards their ability to substantially retain a **hydrophilic** probe. The 1st system was phospholipid analogs, and its glucose encapsulation were revealed to be much dependent on the temperature, in reference to the transition temperature - from the gel to the liquid crystalline phase - of the system. The 2nd system consisted of different catanionic mixts., whose entrapment efficiency was studied as a function of the original conditions (glucose concentration, surfactant proportion in H2O). Dialysis expts. were also conducted to assess the permeability of the vesicular bilayer and, thus, to settle the issue of long-term encapsulation.
IT **50-99-7**, Glucose, properties **57-88-5**, **Cholesterol**, properties **63-89-8**, Dppc **138-32-9** **25155-30-0**, Sodium dodecyl benzenesulfonate
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(probe entrapment by vesicular systems in relation with properties of **amphiphilic** film)
RN 50-99-7 HCAPLUS
CN D-Glucose (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



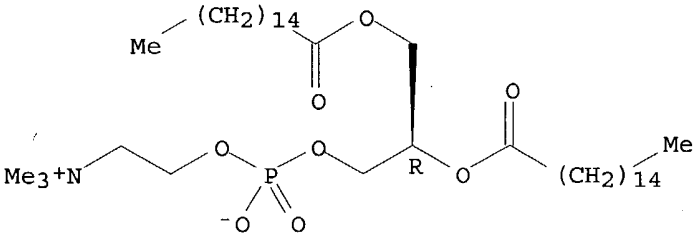
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 63-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

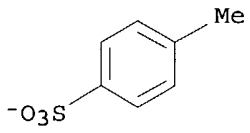
Absolute stereochemistry. Rotation (+).



RN 138-32-9 HCAPLUS
CN 1-Hexadecanaminium, N,N,N-trimethyl-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 16722-51-3
CMF C7 H7 O3 S



CM 2

CRN 6899-10-1
CMF C19 H42 N

$Me_3{}^+N-(CH_2)_{15}-Me$

RN 25155-30-0 HCAPLUS

CN Benzenesulfonic acid, dodecyl-, sodium salt (8CI, 9CI) (CA INDEX NAME)

D1— SO_3H

Me— $(CH_2)_{11}$ — D1

● Na

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:295691 HCAPLUS
DOCUMENT NUMBER: 141:230462
TITLE: PEI-based **vesicle**-polymer hybrid gene delivery system with improved biocompatibility
AUTHOR(S): Brownlie, A.; Uchegbu, I. F.; Schatzlein, A. G.
CORPORATE SOURCE: Beatson Laboratories, Cancer Research UK Department of Medical Oncology, University of Glasgow, Glasgow, UK
SOURCE: International Journal of Pharmaceutics (2004), 274(1-2), 41-52
CODEN: IJPHDE; ISSN: 0378-5173
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Wider use of the transfection agent polymer polyethylenimine (PEI) in vivo has been hampered by its toxicity. In order to examine whether material combining properties of polymers and lipid type of carriers would have improved characteristics, four PEI derivs. were synthesized: The methylation of the branched PEI (25 kDa) created a permanently charged quaternary ammonium derivative Acylation of these backbones using pendant palmitic acid chains created **amphiphilic** PEI variants which formed nanoparticles or **vesicles.** Finally **hydrophilic** groups were added to the polymer backbone by PEGylation. The materials were characterized and their in vitro and in vivo properties were tested. The modifications improved the materials biocompatibility markedly when compared to the starting material but also reduced transfection efficiency. The material bearing ammonium and palmitoyl groups was 10+ less toxic while retaining about 30% of the transfection efficiency in vitro. After i.v. administration in a mouse model the materials also gave rise to GFP transgene expression in the liver. The synthetic strategy altered complex physicochem. and improved biocompatibility while maintaining in vitro gene expression for most formulations. The strategy of combination of complementary properties of cationic lipids and polymers into a hybrid material may also be applicable to other materials.

IT **9002-98-6**, Polyethylenimine
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)

(PEI-based **vesicle**-polymer hybrid gene delivery system with improved biocompatibility)

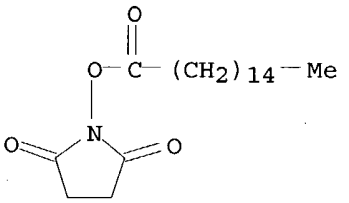
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

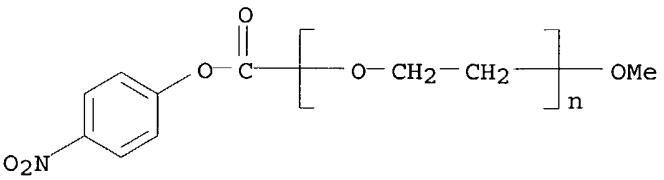
CRN 151-56-4
CMF C2 H5 N

IT **14464-31-4DP**, reaction products with polyethylenimine derivs., DNA conjugates **124661-64-9DP**, reaction products with polyethylenimine derivs., DNA conjugates **745829-28-1DP**, quaternized ethoxylated derivs., DNA conjugates
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(PEI-based **vesicle**-polymer hybrid gene delivery system with improved biocompatibility)

RN 14464-31-4 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(1-oxohexadecyl)oxy]- (9CI) (CA INDEX NAME)



RN 124661-64-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-nitrophenoxy)carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



RN 745829-28-1 HCAPLUS
CN Aziridine, homopolymer, compd. with iodomethane (9CI) (CA INDEX NAME)

CM 1

CRN 74-88-4
CMF C H3 I

H_3C-I

CM 2

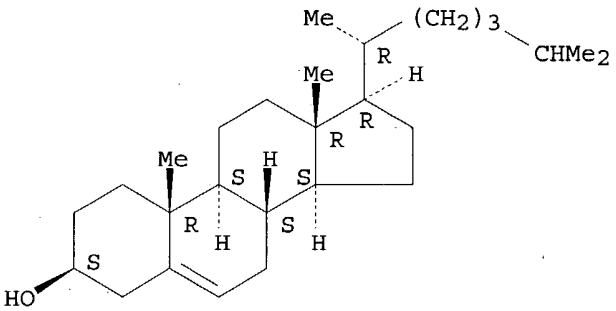
CRN 9002-98-6
CMF (C2 H5 N)x
CCI PMS

CM 3

CRN 151-56-4
CMF C2 H5 N

IT **57-88-5**, **Cholesterol**, biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PEI-based **vesicle**-polymer hybrid gene delivery system with improved biocompatibility)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **57-10-3**, Palmitic acid, reactions **74-88-4**, Methyl iodide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(PEI-based **vesicle**-polymer hybrid gene delivery system with improved biocompatibility)
RN 57-10-3 HCAPLUS
CN Hexadecanoic acid (9CI) (CA INDEX NAME)

$HO_2C-(CH_2)_{14}-Me$

RN 74-88-4 HCAPLUS
CN Methane, iodo- (8CI, 9CI) (CA INDEX NAME)

H_3C-I

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:851595 HCAPLUS
DOCUMENT NUMBER: 140:1952
TITLE: Anion-Mediated Transfer of Polyarginine across Liquid and Bilayer Membranes
AUTHOR(S): Sakai, Naomi; Matile, Stefan
CORPORATE SOURCE: Department of Organic Chemistry, University of Geneva, Geneva, Switz.
SOURCE: Journal of the American Chemical Society (2003), 125(47), 14348-14356
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

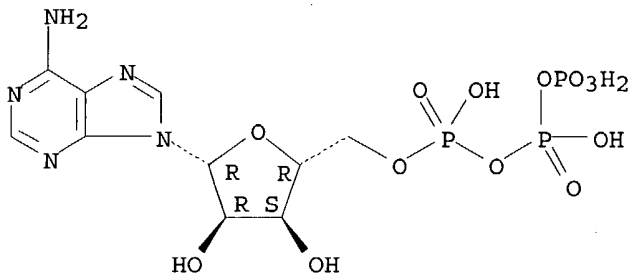
AB The accumulation of reports on the puzzling behavior of guanidinium-rich oligo/polymers in bilayer membranes, reaching from HIV-Tat-like (HIV Tat is the human immunodeficiency virus transactivator of transcription) translocation to selectivity and voltage-gating of ion channels, prompted us to investigate possible contributions from counteranions to these phenomena. We report that anion-mediated variability of charge and solubility makes guanidinium-rich oligo/polymers adaptable to many environments. For example, poly- and hexaarginine but not polylysine phase transferred from water into chloroform in the presence of **amphiphilic** anions such as monomeric sodium dodecyl sulfate (SDS), egg yolk phosphatidylglycerol (EYPG), **cholesterol** sulfate, pyrenebutyrate, and stearate. **Hydrophilic** anions with high affinity inhibited phase transfer of 5(6)-carboxyfluorescein (CF)-polyarginine complexes into bulk membranes (sulfate, ATP, AMP, heparin, and micellar SDS). At least binary anion cocktails were necessary to activate polyarginine as a carrier in bulk chloroform membranes. Refined combinations of EYPG, phosphate, and azide or TFA were found to maximize translocation of CF across bulk membranes by polyarginine. Polyarginine-mediated CF efflux from large unilamellar **vesicles** was best in the presence of EYPG in the bilayer as well as phosphate and TFA in the medium. Similar regulatory activities of several anions were in support of a common carrier mechanism for guanidinium-rich oligo/polymers in bulk and bilayer membranes. The identified activities of polyarginine in bulk and lipid membranes suggested that anion-mediated adaptability of the solubility of guanidinium-rich oligo/polymers cannot be ignored in studies on biol. function. The infinite variability and dynamic nature of available regulatory anion cocktails may contribute to the elusive character of guanidinium-rich oligo/polymer function in biomembranes.

IT **56-65-5**, 5'-ATP, biological studies **57-11-4**, Octadecanoic acid, biological studies **61-19-8**, 5'-AMP, biological studies **76-05-1**, TFA, biological studies **151-21-3**, SDS, biological studies **1256-86-6**, **Cholesterol** sulfate **3443-45-6**, 1-Pyrenebutanoic acid **9005-49-6**, Heparin, biological studies **14265-44-2**, Phosphate, biological studies **14343-69-2**, Azide **14808-79-8**, Sulfate, biological studies **24937-47-1**, Polyarginine **25212-18-4**, Polyarginine **96337-25-6**, Hexaarginine
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); BIOL

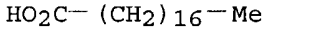
(Biological study); PROC (Process)
(anion-mediated transfer of polyarginine across liquid and bilayer membranes)

RN 56-65-5 HCAPLUS
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.

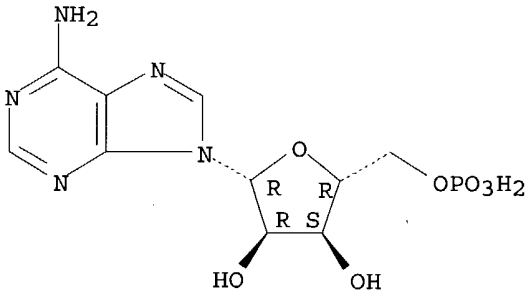


RN 57-11-4 HCAPLUS
CN Octadecanoic acid (9CI) (CA INDEX NAME)

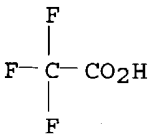


RN 61-19-8 HCAPLUS
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 76-05-1 HCAPLUS
CN Acetic acid, trifluoro- (8CI, 9CI) (CA INDEX NAME)



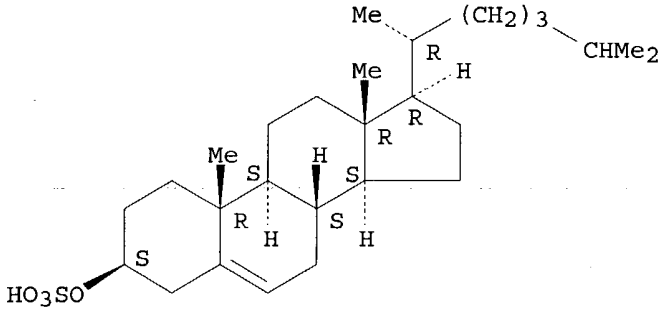
RN 151-21-3 HCAPLUS
CN Sulfuric acid monododecyl ester sodium salt (8CI, 9CI) (CA INDEX NAME)

$HO_3SO-(CH_2)_{11}-Me$

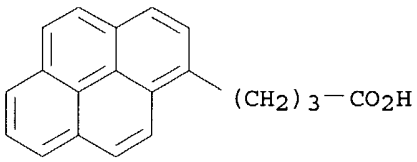
● Na

RN 1256-86-6 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, hydrogen sulfate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

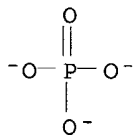


RN 3443-45-6 HCAPLUS
CN 1-Pyrenebutanoic acid (9CI) (CA INDEX NAME)

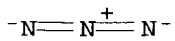


RN 9005-49-6 HCAPLUS
CN Heparin (8CI, 9CI) (CA INDEX NAME)

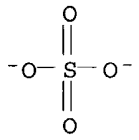
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 14265-44-2 HCAPLUS
CN Phosphate (8CI, 9CI) (CA INDEX NAME)



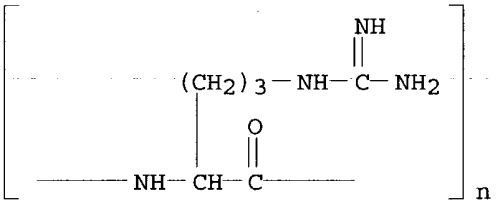
RN 14343-69-2 HCAPLUS
CN Azide (8CI, 9CI) (CA INDEX NAME)



RN 14808-79-8 HCAPLUS
CN Sulfate (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 24937-47-1 HCAPLUS
CN Poly[imino[(1S)-1-[3-[(aminoiminomethyl)amino]propyl]-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)

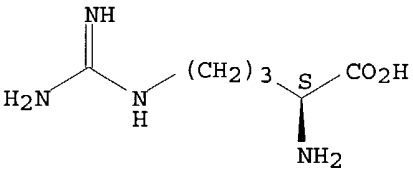


RN 25212-18-4 HCAPLUS
CN L-Arginine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-79-3
CMF C6 H14 N4 O2

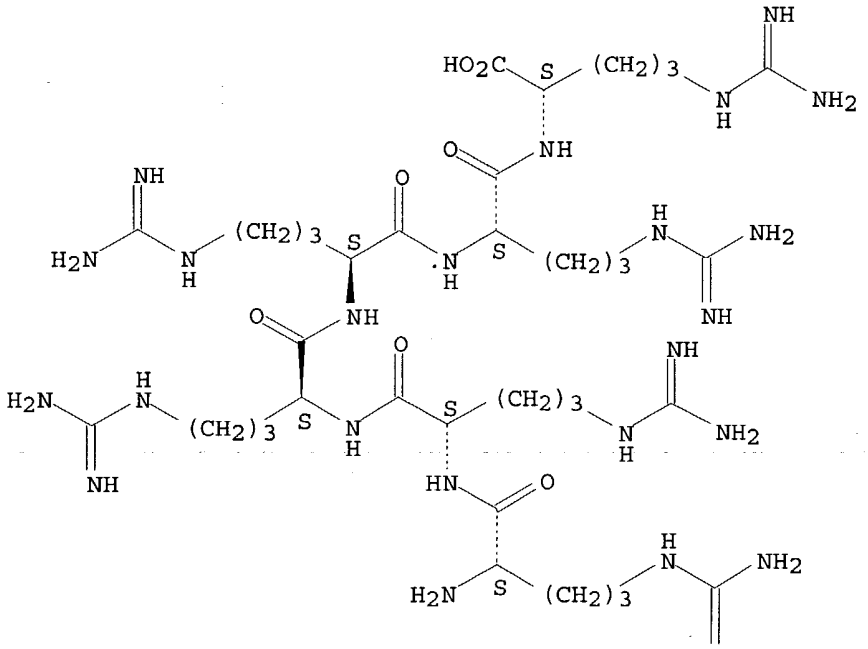
Absolute stereochemistry.



RN 96337-25-6 HCAPLUS
CN L-Arginine, L-arginyl-L-arginyl-L-arginyl-L-arginyl-L-arginyl- (9CI) (CA INDEX NAME)

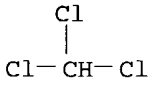
Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

IT **67-66-3**, Chloroform, biological studies
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); BIOL (Biological study); PROC (Process)
(transfer from water into chloroform; anion-mediated transfer of polyarginine across liquid and bilayer membranes)
RN 67-66-3 HCAPLUS
CN Methane, trichloro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:335124 HCAPLUS
DOCUMENT NUMBER: 138:338336
TITLE: Preparation of **amphiphilic** cationic lipids derived from **cholesterol**
INVENTOR(S): Gerszberg, Szepsel; Alonso, Daniel

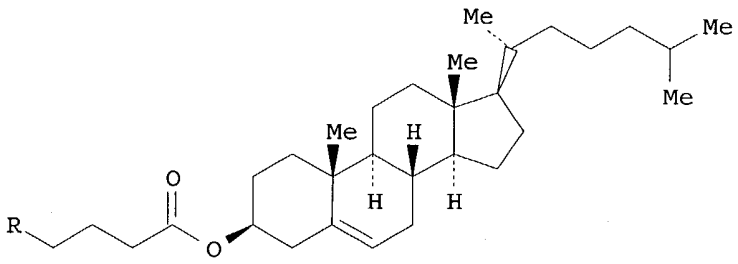
PATENT ASSIGNEE(S): Sterrenbeld Biotechnologie North America, Inc., USA
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003035669	A1	20030501	WO 2001-US32399	20011022

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: WO 2001-US32399 20011022
OTHER SOURCE(S): MARPAT 138:338336
GI



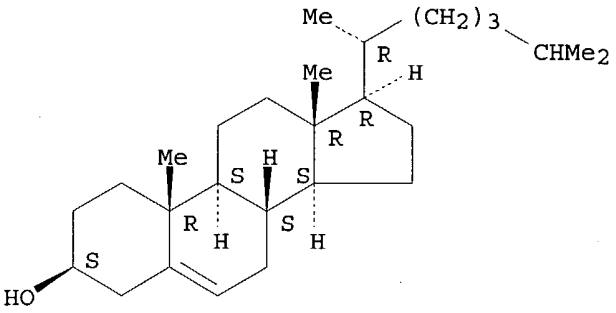
I

AB **Cholesterol** derived **amphiphilic** cationic lipids having: (1) an **hydrophilic** domain including a dimethylamine group, (2) a spacer group including at least 2 carbon atoms linked to the **hydrophilic** domain, (3) a linking bond including an ester carboxyl, carbamate and carbonate group linked to the spacer group and (4) a **cholesterol**-derived lipophilic group linked to the linking bond. Thus, I (R = NMe2) was prepared from 4-(dimethylamino)butyric acid hydrochloride and **cholesterol**, then was reacted with 2-bromoethanol to give I (R = HOCH2CH2(Me)2N+) bromide.

IT **57-88-5**, **Cholesterol**, reactions **108-01-0**, 2-(Dimethylamino)ethanol **540-51-2**, 2-Bromoethanol **1510-21-0**, Cholesteryl hemisuccinate **69954-66-1** **137056-72-5** **144108-35-0** **205044-98-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of **amphiphilic** cationic lipids derived from **cholesterol** as **liposomes**)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 108-01-0 HCAPLUS
CN Ethanol, 2-(dimethylamino)- (8CI, 9CI) (CA INDEX NAME)

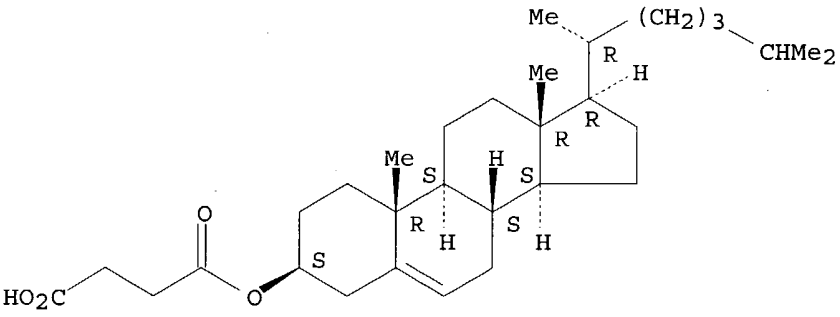
$Me_2N-CH_2-CH_2-OH$

RN 540-51-2 HCAPLUS
CN Ethanol, 2-bromo- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

$Br-CH_2-CH_2-OH$

RN 1510-21-0 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, hydrogen butanedioate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



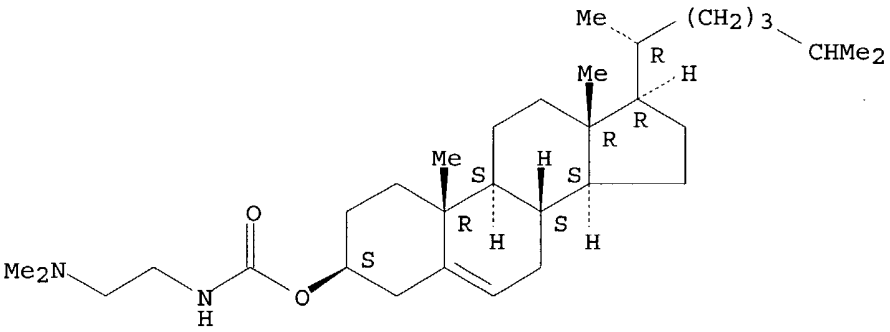
RN 69954-66-1 HCAPLUS
CN Butanoic acid, 4-(dimethylamino)-, hydrochloride (9CI) (CA INDEX NAME)

$Me_2N-(CH_2)_3-CO_2H$

● HCl

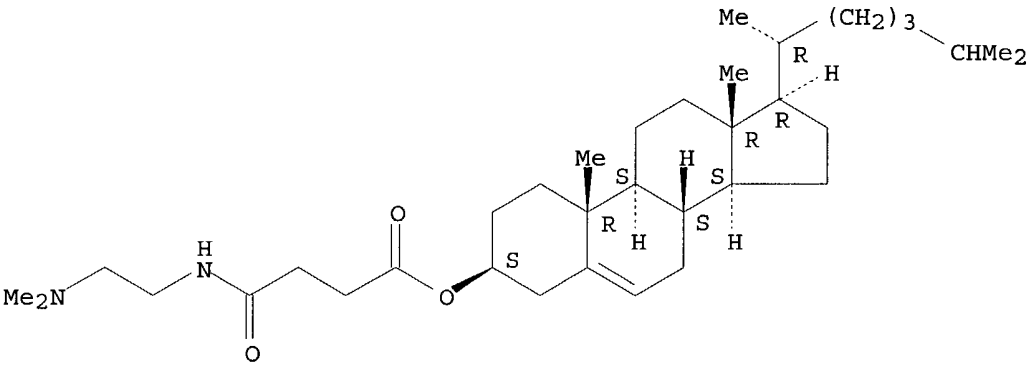
RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



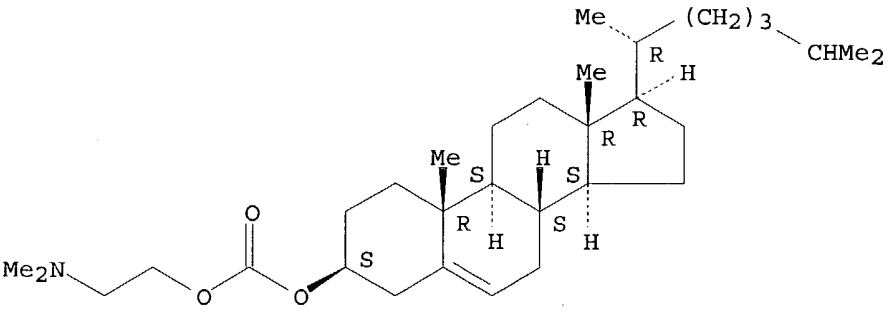
RN 144108-35-0 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 4-[[2-(dimethylamino)ethyl]amino]-4-oxobutanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 205044-98-0 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 2-(dimethylamino)ethyl carbonate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

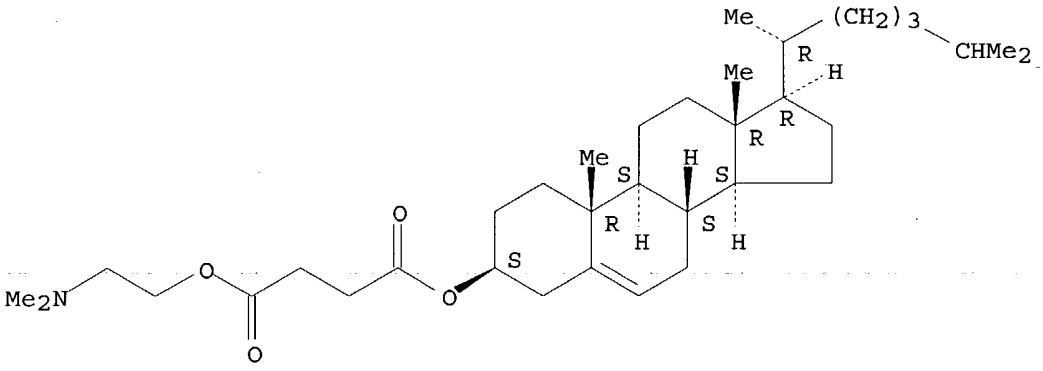


IT **278170-60-8P 516501-28-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent);

USES (Uses)
(preparation of **amphiphilic** cationic lipids derived from **cholesterol** as **liposomes**)

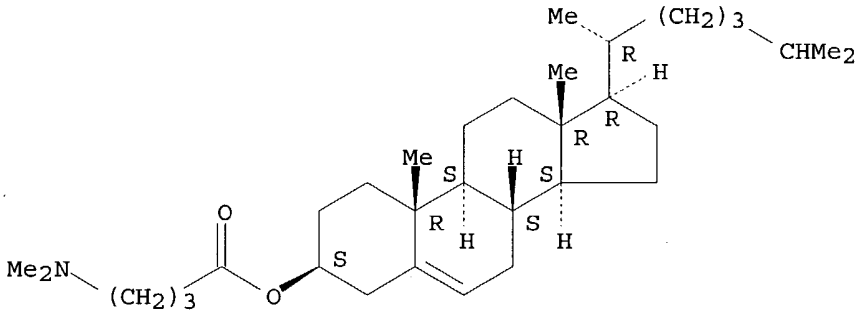
RN 278170-60-8 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 2-(dimethylamino)ethyl butanedioate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 516501-28-3 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 4-(dimethylamino)butanoate (9CI) (CA INDEX NAME)

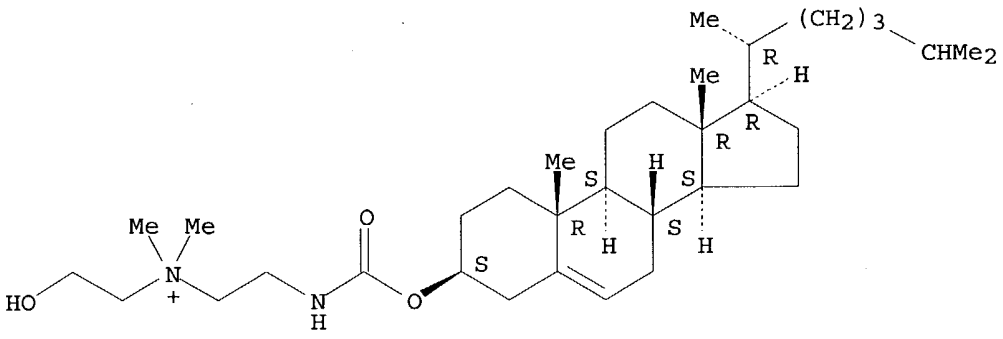
Absolute stereochemistry.



IT **516501-20-5P 516501-23-8P 516501-25-0P**
516501-26-1P 516501-27-2P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of **amphiphilic** cationic lipids derived from **cholesterol** as **liposomes**)

RN 516501-20-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, [2-[(2-hydroxyethyl)dimethylammonio]ethyl]carbamate, bromide (9CI) (CA INDEX NAME)

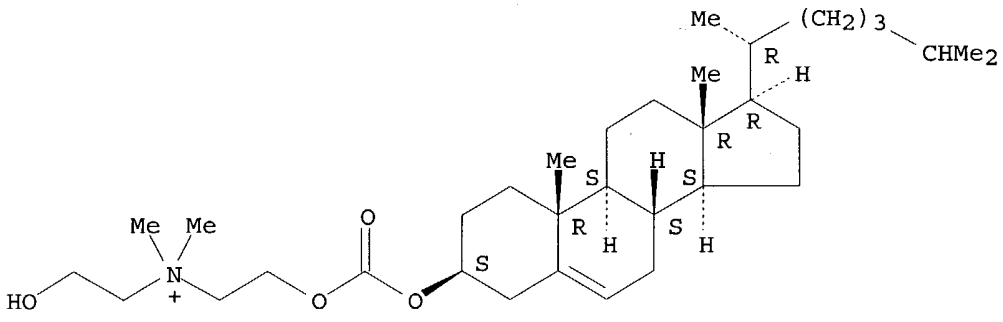
Absolute stereochemistry.



● Br^-

RN 516501-23-8 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 2-[(2-hydroxyethyl)dimethylammonio]ethyl carbonate, bromide (9CI) (CA INDEX NAME)

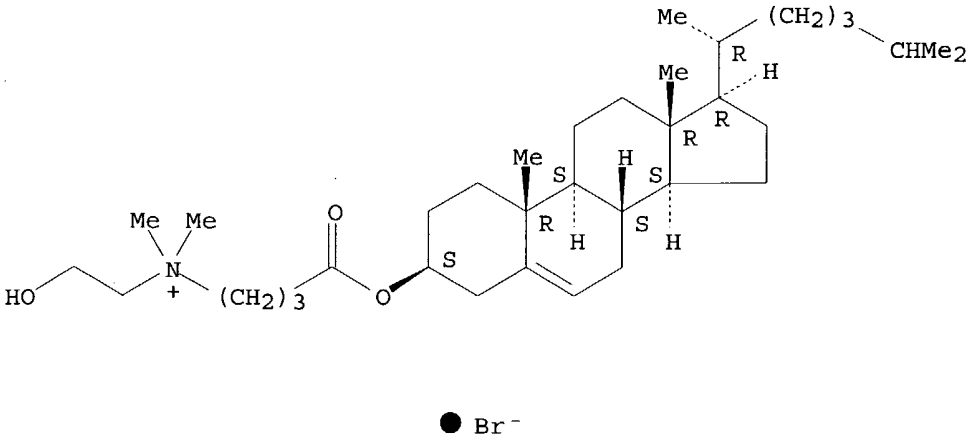
Absolute stereochemistry.



● Br^-

RN 516501-25-0 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 4-[(2-hydroxyethyl)dimethylammonio]butanoate, bromide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

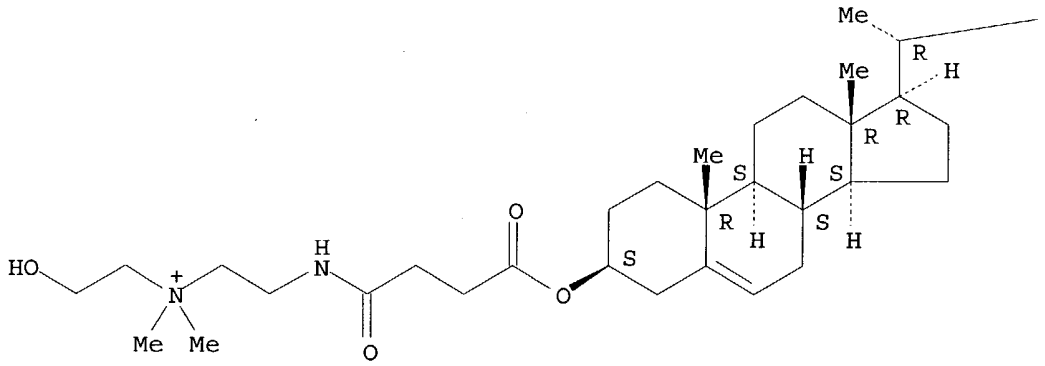


● Br^-

RN 516501-26-1 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 4-[[2-[(2-hydroxyethyl)dimethylammonio]ethyl]amino]-4-oxobutanoate, bromide (9CI) (CA INDEX NAME)

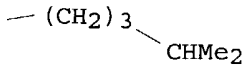
Absolute stereochemistry.

PAGE 1-A



● Br^-

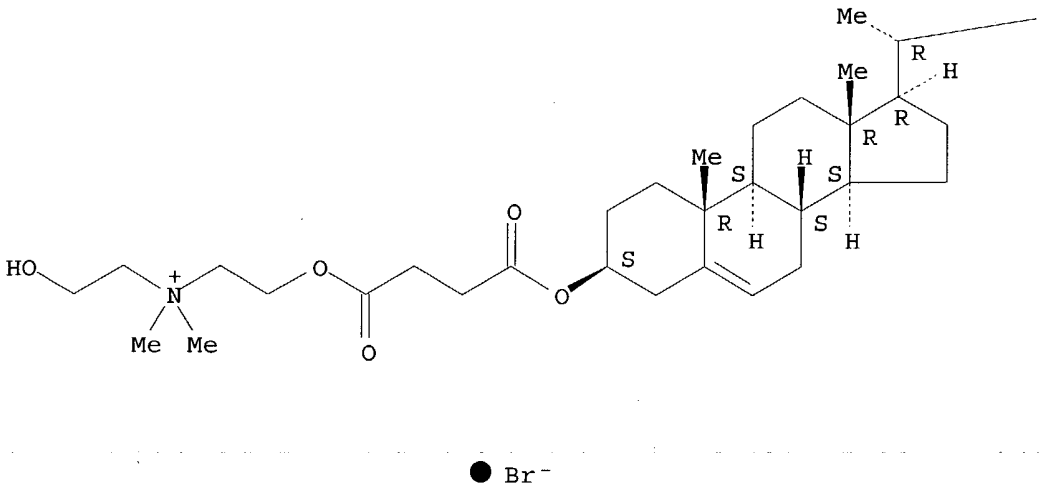
PAGE 1-B



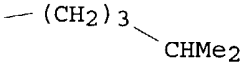
RN 516501-27-2 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 2-[(2-hydroxyethyl)dimethylammonio]ethyl butanedioate, bromide (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 5 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:117584 HCAPLUS
DOCUMENT NUMBER: 138:158560
TITLE: Composition based on lipid lamellar **vesicles** incorporating at least a DHEA compound
INVENTOR(S): Simonnet, Jean-Thierry
PATENT ASSIGNEE(S): L'oreal, Fr.
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

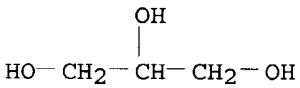
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003011245	A1	20030213	WO 2002-FR2571	20020718
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
FR 2827765	A1	20030131	FR 2001-10109	20010727
FR 2827765	B1	20030919		

PRIORITY APPLN. INFO.: FR 2001-10109 A 20010727
OTHER SOURCE(S): MARPAT 138:158560

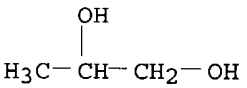
AB The invention concerns a composition comprising: a dispersion, in an external aqueous phase, of **vesicles** consisting of lipid lamellar phases separated from one another by **hydrophilic** layers and encapsulating a **hydrophilic** core, said lamellar phases comprising at least an **amphiphilic** lipid; and at least a DHEA compound contained, in solubilized form in free mol. state, in particular non-complexed, in the **hydrophilic** layers and/or in the **hydrophilic** core; and at least a solubilizer of said DHEA compound (preferably a glycol optionally combined with water and/or glycerin). The incorporation of the DHEA compound in the **hydrophilic** core of the **vesicles** enable to prevent its recrystn. in the external aqueous phase and to improve its bioavailability.

IT **56-81-5**, Glycerin, biological studies **57-55-6**, Propylene glycol, biological studies **107-41-5**, Hexylene glycol **107-88-0**, Butylene glycol **111-29-5**, Pentylene glycol **25265-71-8**, Dipropylene glycol
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(composition based on lipid lamellar **vesicles** incorporating at least DHEA compound)

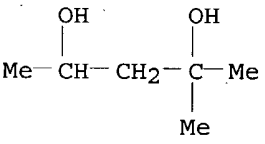
RN 56-81-5 HCAPLUS
CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



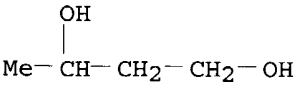
RN 57-55-6 HCAPLUS
CN 1,2-Propanediol (8CI, 9CI) (CA INDEX NAME)



RN 107-41-5 HCAPLUS
CN 2,4-Pentanediol, 2-methyl- (8CI, 9CI) (CA INDEX NAME)



RN 107-88-0 HCAPLUS
CN 1,3-Butanediol (8CI, 9CI) (CA INDEX NAME)



RN 111-29-5 HCAPLUS

CN 1,5-Pentanediol (8CI, 9CI) (CA INDEX NAME)

HO—$(CH_2)_5$—OH

RN 25265-71-8 HCAPLUS
CN Propanol, oxybis- (9CI) (CA INDEX NAME)

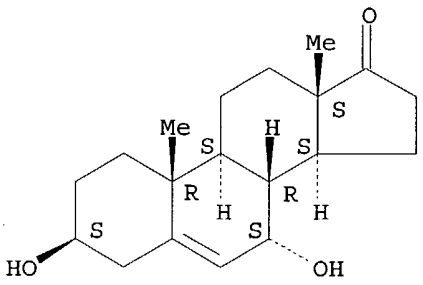
HO—CH_2—CH_2—O—CH_2—CH_2—OH

2 (D1—Me)

IT **53-00-9 53-43-0**, DHEA **57-50-1**, Sucrose, biological studies **58-95-7**, Vitamin e acetate **63-05-8**, Δ4-Androstene-3,17-dione **77-60-1**, Tigogenin **126-18-1**, Smilagenin **126-19-2 142-47-2D**, Sodium glutamate, acyl derivs. **145-13-1**, Δ5-Pregnenolone **387-79-1**, 17α-Hydroxy pregnenolone **467-55-0**, Hecogenin **511-97-7**, Yuccagenin **512-04-9**, Diosgenin **512-06-1**, Yamogenin **566-19-8 651-48-9**, DHEA sulfate **853-23-6 1256-86-6**, **Cholesterol** sulfate **1449-61-2 2487-48-1 4358-16-1**, Cholesteryl phosphate **6640-03-5**, Dimyristylphosphate **7642-68-4 9005-63-4**, Polyoxyethylenesorbitan **12441-09-7**, Sorbitan **14504-94-0**, Androst-5-ene-3,17-diol **16690-92-9D**, Disodium glutamate, acyl derivs. **23983-43-9 25322-68-3**, Polyethylene glycol **25618-55-7**, Polyglycerol **26266-57-9**, Sorbitan palmitate **28901-70-4**, 17α-Hydroxy pregnenolone sulfate **39663-17-7 63119-59-5**, Diglycerol distearate **103596-99-2 188750-82-5**, DHEA salicylate **363139-74-6 494796-45-1**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (composition based on lipid lamellar **vesicles** incorporating at least DHEA compound)

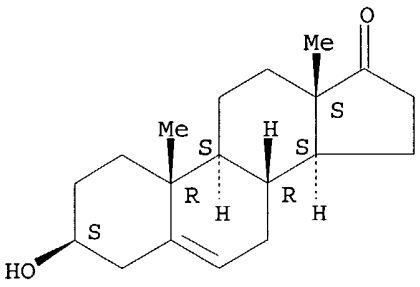
RN 53-00-9 HCAPLUS
CN Androst-5-en-17-one, 3,7-dihydroxy-, (3β,7α)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



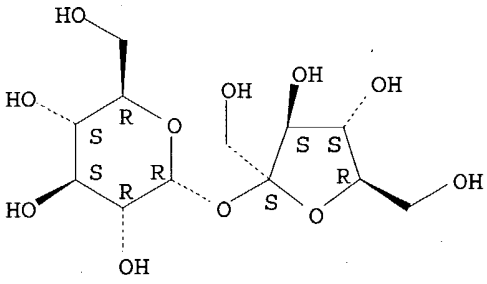
RN 53-43-0 HCAPLUS
CN Androst-5-en-17-one, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



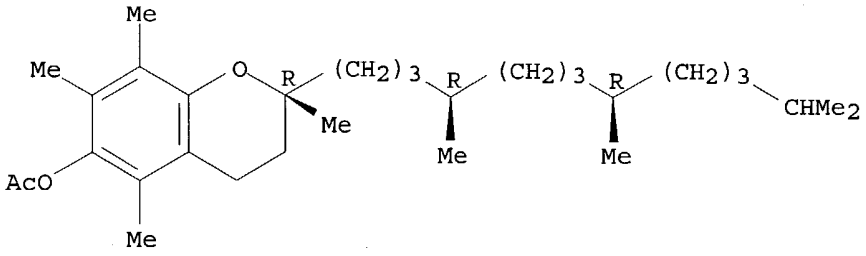
RN 57-50-1 HCAPLUS
CN α-D-Glucopyranoside, β-D-fructofuranosyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



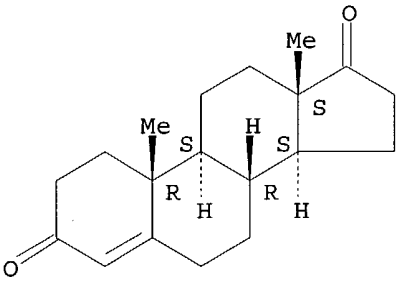
RN 58-95-7 HCAPLUS
CN 2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-[(4R,8R)-4,8,12-trimethyltridecyl]-, acetate, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



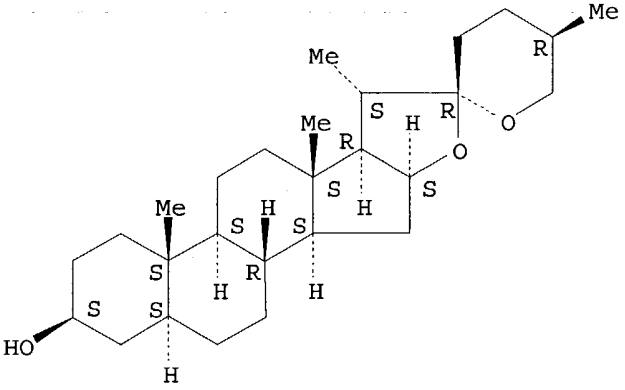
RN 63-05-8 HCAPLUS
CN Androst-4-ene-3,17-dione (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



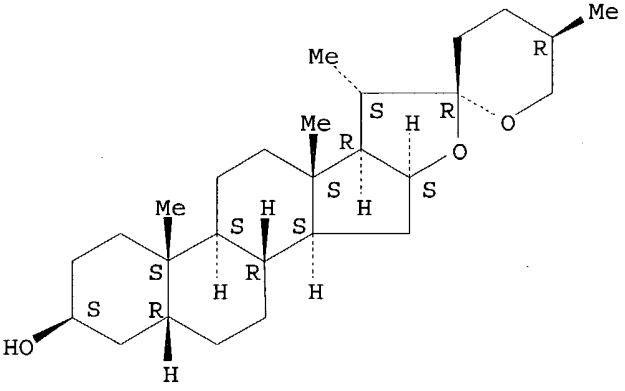
RN 77-60-1 HCAPLUS
CN Spirostan-3-ol, (3β,5α,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



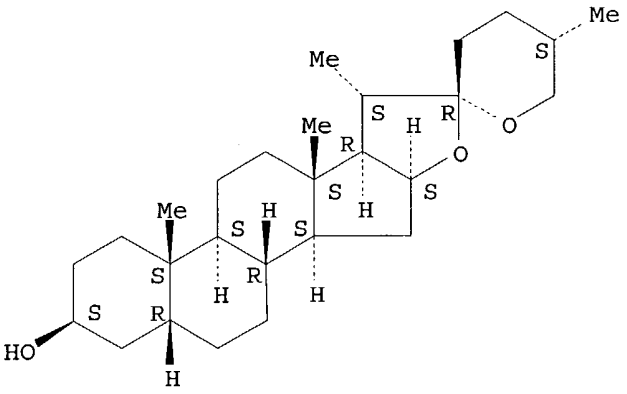
RN 126-18-1 HCAPLUS
CN Spirostan-3-ol, (3β,5β,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



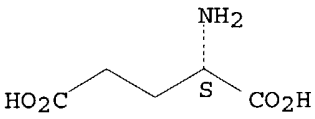
RN 126-19-2 HCAPLUS
CN Spirostan-3-ol, (3β,5β,25S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 142-47-2 HCAPLUS
CN L-Glutamic acid, monosodium salt (9CI) (CA INDEX NAME)

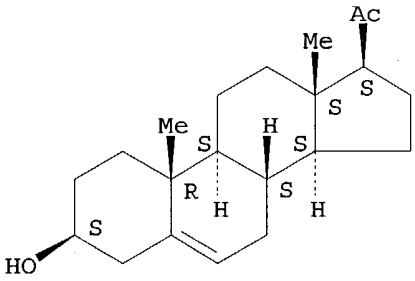
Absolute stereochemistry.



● Na

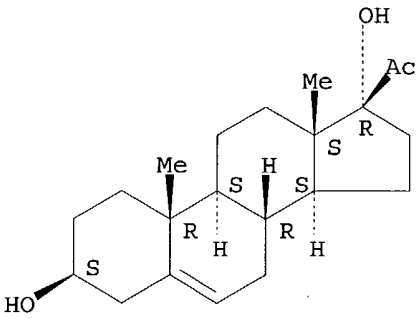
RN 145-13-1 HCAPLUS
CN Pregn-5-en-20-one, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



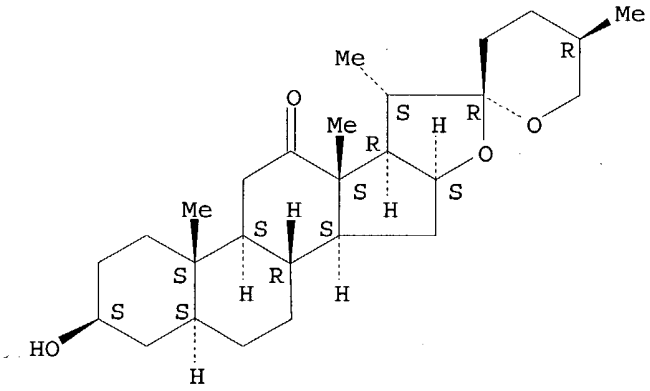
RN 387-79-1 HCAPLUS
CN Pregn-5-en-20-one, 3,17-dihydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



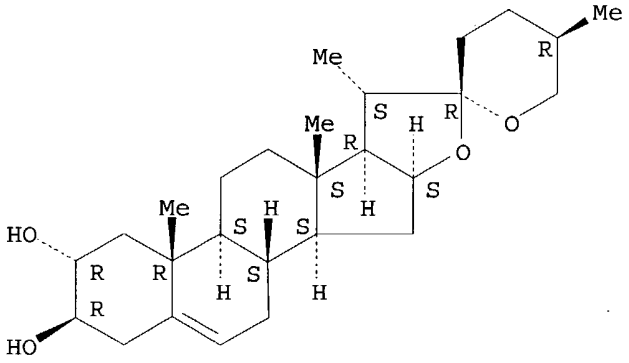
RN 467-55-0 HCAPLUS
CN Spirostan-12-one, 3-hydroxy-, (3β,5α,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



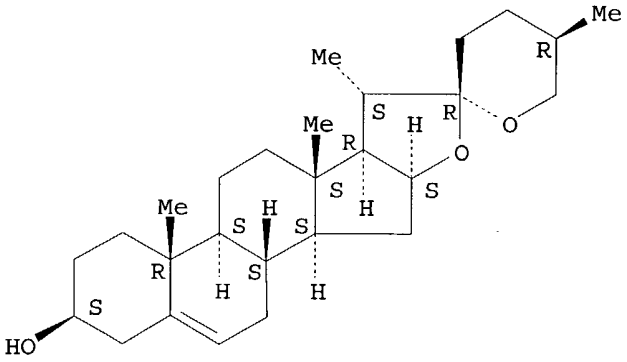
RN 511-97-7 HCAPLUS
CN Spirost-5-ene-2,3-diol, (2α,3β,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



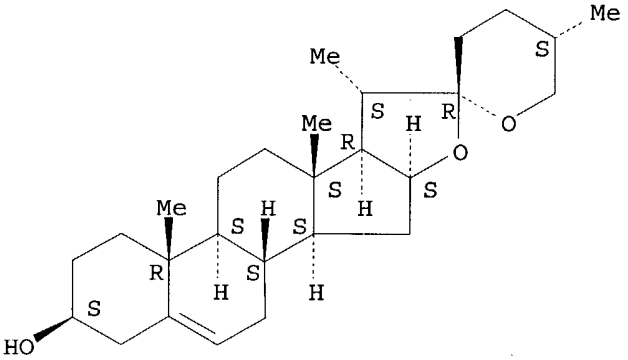
RN 512-04-9 HCAPLUS
CN Spirost-5-en-3-ol, (3β,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



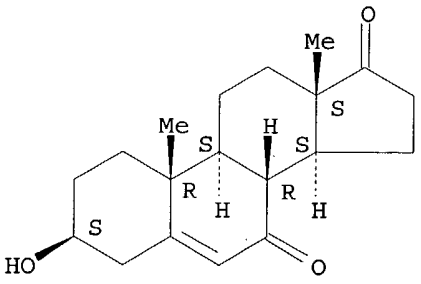
RN 512-06-1 HCAPLUS
CN Spirost-5-en-3-ol, (3β,25S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



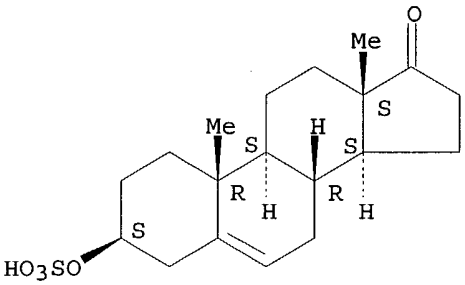
RN 566-19-8 HCAPLUS
CN Androst-5-ene-7,17-dione, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



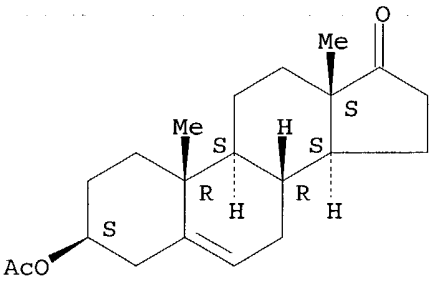
RN 651-48-9 HCAPLUS
CN Androst-5-en-17-one, 3-(sulfooxy)-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



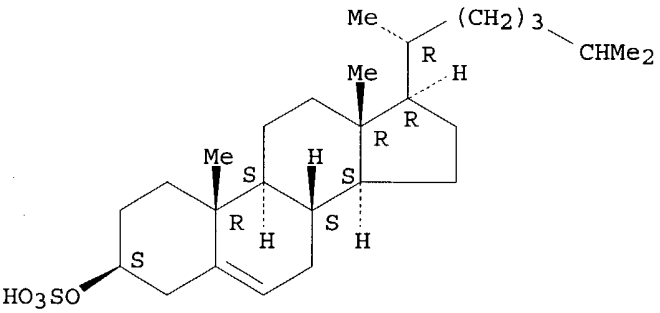
RN 853-23-6 HCAPLUS
CN Androst-5-en-17-one, 3-(acetyloxy)-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



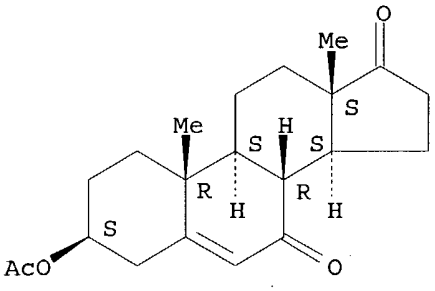
RN 1256-86-6 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, hydrogen sulfate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



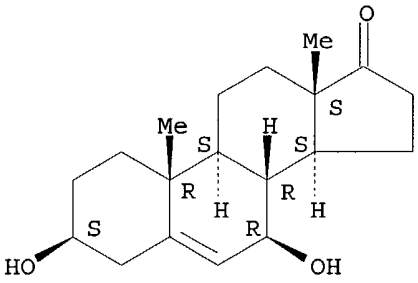
RN 1449-61-2 HCAPLUS
CN Androst-5-ene-7,17-dione, 3-(acetyloxy)-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



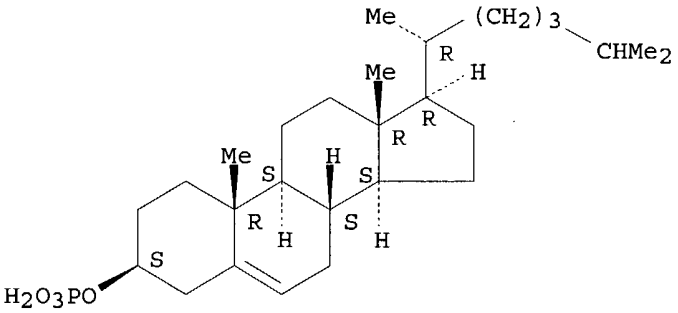
RN 2487-48-1 HCAPLUS
CN Androst-5-en-17-one, 3,7-dihydroxy-, (3β,7β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

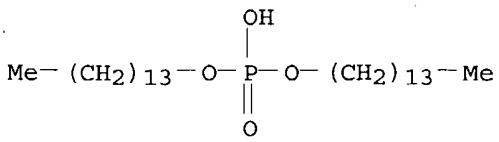


RN 4358-16-1 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, dihydrogen phosphate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

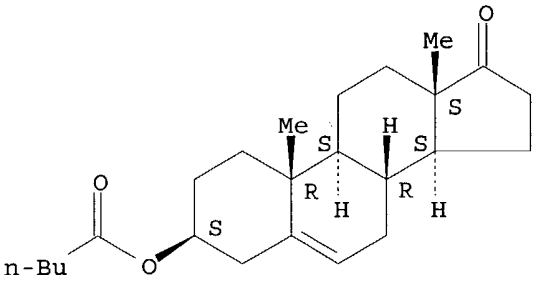


RN 6640-03-5 HCAPLUS
CN 1-Tetradecanol, hydrogen phosphate (8CI, 9CI) (CA INDEX NAME)



RN 7642-68-4 HCAPLUS
CN Androst-5-en-17-one, 3-[(1-oxopentyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



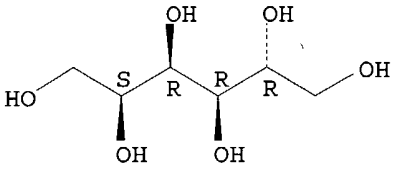
RN 9005-63-4 HCAPLUS
CN Sorbitan, poly(oxy-1,2-ethanediyl) derivs. (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 12441-09-7 HCAPLUS
CN Sorbitan (6CI, 9CI) (CA INDEX NAME)

CM 1

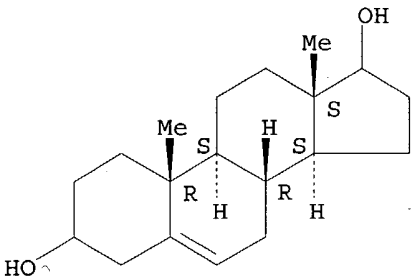
CRN 50-70-4
CMF C6 H14 O6

Absolute stereochemistry.



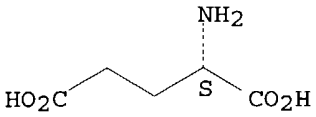
RN 14504-94-0 HCAPLUS
CN Androst-5-ene-3,17-diol (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 16690-92-9 HCAPLUS
CN L-Glutamic acid, disodium salt (9CI) (CA INDEX NAME)

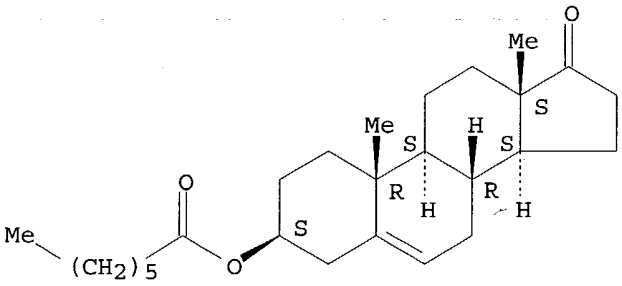
Absolute stereochemistry.



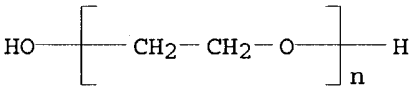
●2 Na

RN 23983-43-9 HCAPLUS
CN Androst-5-en-17-one, 3-[(1-oxoheptyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



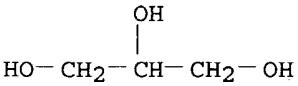
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



RN 25618-55-7 HCAPLUS
CN 1,2,3-Propanetriol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 56-81-5
CMF C3 H8 O3



RN 26266-57-9 HCAPLUS
CN Sorbitan, monohexadecanoate (9CI) (CA INDEX NAME)

CM 1

CRN 57-10-3

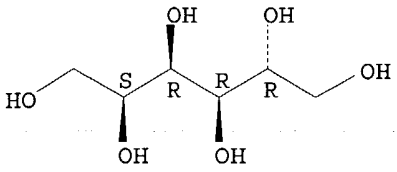
CMF C16 H32 O2

$HO_2C-(CH_2)_{14}-Me$

CM 2

CRN 50-70-4
CMF C6 H14 O6

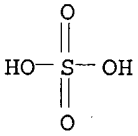
Absolute stereochemistry.



RN 28901-70-4 HCAPLUS
CN Pregn-5-en-20-one, 3,17-dihydroxy-, mono(hydrogen sulfate), (3β)- (9CI) (CA INDEX NAME)

CM 1

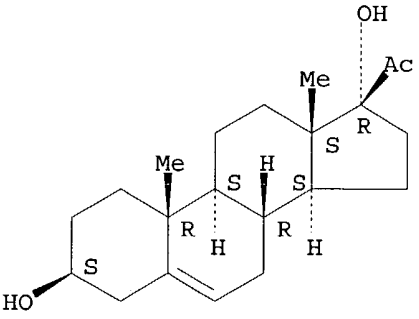
CRN 7664-93-9
CMF H2 O4 S



CM 2

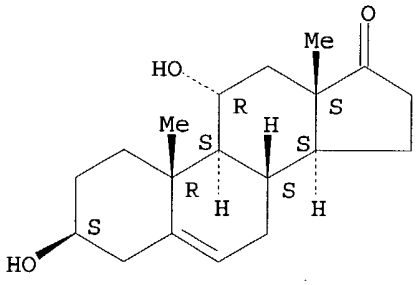
CRN 387-79-1
CMF C21 H32 O3

Absolute stereochemistry.



RN 39663-17-7 HCAPLUS
CN Androst-5-en-17-one, 3,11-dihydroxy-, (3β,11α)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 63119-59-5 HCAPLUS
CN Octadecanoic acid, diester with oxybis[propanediol] (9CI) (CA INDEX NAME)

CM 1

CRN 59113-36-9
CMF C6 H14 O5
CCI IDS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

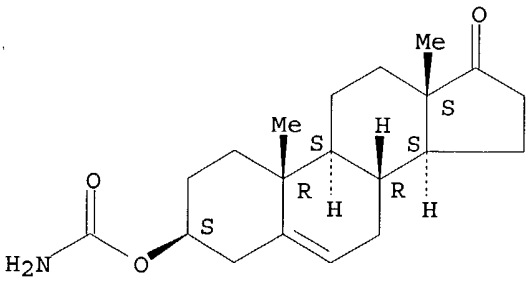
CM 2

CRN 57-11-4
CMF C18 H36 O2

$HO_2C-(CH_2)_{16}-Me$

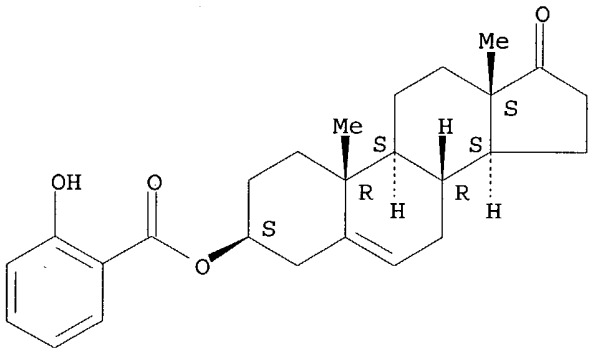
RN 103596-99-2 HCAPLUS
CN Androst-5-en-17-one, 3-[(aminocarbonyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



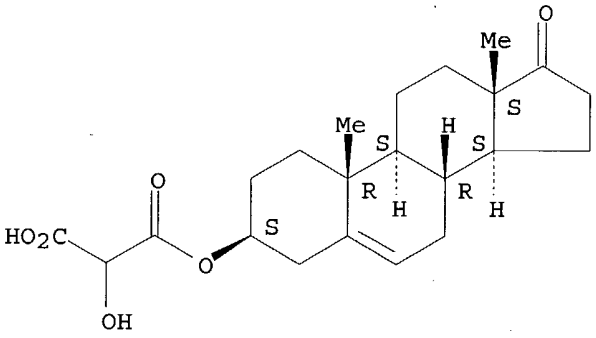
RN 188750-82-5 HCAPLUS
CN Androst-5-en-17-one, 3-[(2-hydroxybenzoyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



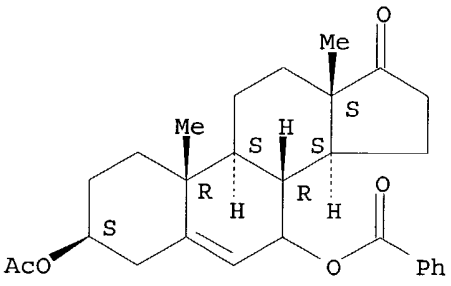
RN 363139-74-6 HCAPLUS
CN Androst-5-en-17-one, 3-[(carboxyhydroxyacetyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 494796-45-1 HCAPLUS
CN Androst-5-en-17-one, 3-(acetyloxy)-7-(benzoyloxy)-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 6 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:117551 HCAPLUS

DOCUMENT NUMBER: 138:158820
TITLE: Composition based on lipid lamellar **vesicles** incorporating at least a DHEA compound
INVENTOR(S): Simonnet, Jean-Thierry
PATENT ASSIGNEE(S): L'oreal, Fr.
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003011208	A2	20030213	WO 2002-FR2573	20020718
WO 2003011208	A3	20031127		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
FR 2827766	A1	20030131	FR 2001-10111	20010727
EP 1414412	A2	20040506	EP 2002-791503	20020718
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				

PRIORITY APPLN. INFO.: FR 2001-10111 A 20010727
WO 2002-FR2573 W 20020718

OTHER SOURCE(S): MARPAT 138:158820

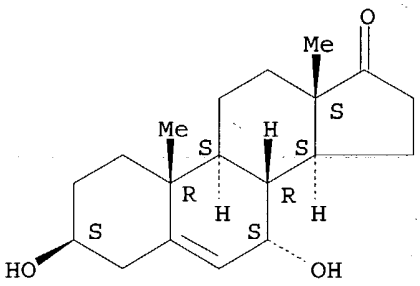
AB The invention concerns a composition comprising: a dispersion, in an outer aqueous phase, of **vesicles** formed by lipid lamellar phases including at least an **amphiphilic** lipid and encapsulating an inner **hydrophilic** phase, said lamellar phases not containing succinic and/or hemi-succinic derivs., and at least a DHEA compound contained in said lamellar phases. The incorporation of the DHEA compound in the lamellar phases of the **vesicles** enables to prevent its recrystn. in the outer aqueous phase and to improve its bioavailability. Formulation of niosomes containing 1% DHEA are disclosed.

IT **53-00-9 53-43-0**, DHEA **57-50-1**, Sucrose, biological studies **58-95-7**, Vitamin e acetate **63-05-8**, Δ4-Androstene-3,17-dione **77-60-1**, Tigogenin **110-15-6D**, Succinic acid, derivs. **126-18-1**, Smilagenin **126-19-2 142-47-2D**, Sodium glutamate, acyl derivs. **145-13-1**, Δ5-Pregnenolone **387-79-1**, 17α-Hydroxy pregnenolone **467-55-0**, Hecogenin **511-97-7**, Yuccagenin **512-04-9**, Diosgenin **512-06-1**, Yamogenin **566-19-8 651-48-9**, DHEA sulfate **853-23-6 1256-86-6**, **Cholesterol** sulfate **1449-61-2 2487-48-1 4358-16-1**, Cholesteryl phosphate **6640-03-5**, Dimyristylphosphate **7642-68-4 9005-63-4**, Polyoxyethylenesorbitan **12441-09-7**, Sorbitan **14504-94-0**, Androst-5-ene-3,17-diol **16690-92-9D**, Disodium glutamate, acyl derivs. **23983-43-9 25322-68-3**, Polyethylene glycol **25618-55-7**, Polyglycerol **26266-57-9**, Sorbitan palmitate **28901-70-4**,

17α-Hydroxy pregnenolone sulfate **39663-17-7**
63119-59-5, Diglycerol distearate **103596-99-2**
188750-82-5, DHEA salicylate **363139-74-6**
494796-45-1
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(composition based on lipid lamellar **vesicles** incorporating at least DHEA compound)

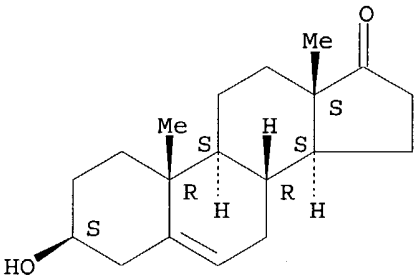
RN 53-00-9 HCAPLUS
CN Androst-5-en-17-one, 3,7-dihydroxy-, (3β,7α)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



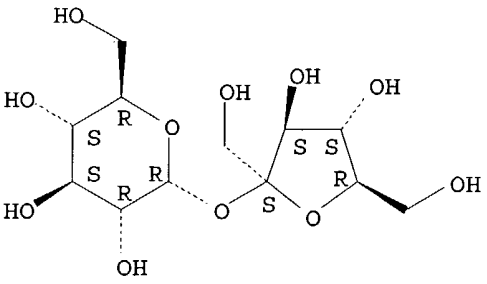
RN 53-43-0 HCAPLUS
CN Androst-5-en-17-one, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 57-50-1 HCAPLUS
CN α-D-Glucopyranoside, β-D-fructofuranosyl (9CI) (CA INDEX NAME)

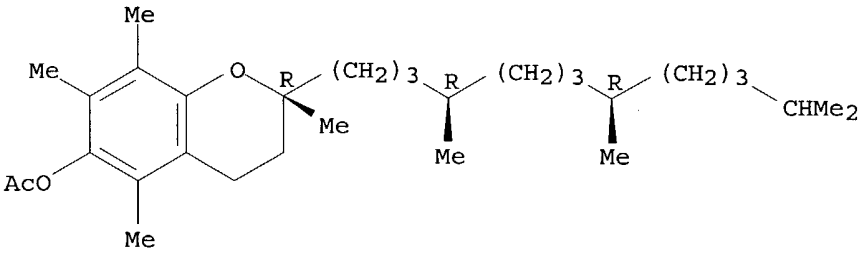
Absolute stereochemistry.



RN 58-95-7 HCAPLUS

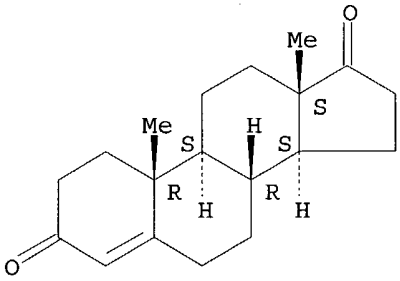
CN 2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-[(4R,8R)-4,8,12-trimethyltridecyl]-, acetate, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



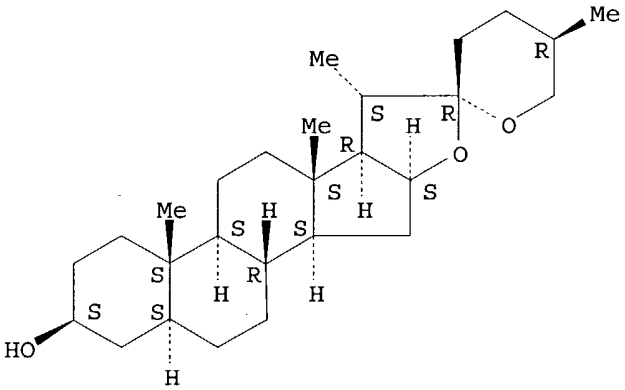
RN 63-05-8 HCAPLUS
CN Androst-4-ene-3,17-dione (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

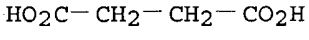


RN 77-60-1 HCAPLUS
CN Spirostan-3-ol, (3β,5α,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

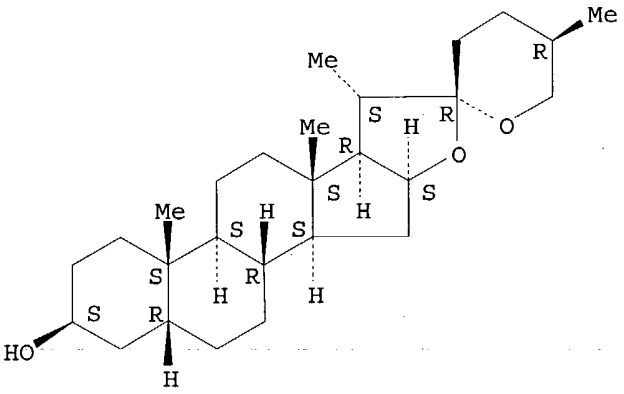


RN 110-15-6 HCAPLUS
CN Butanedioic acid (9CI) (CA INDEX NAME)



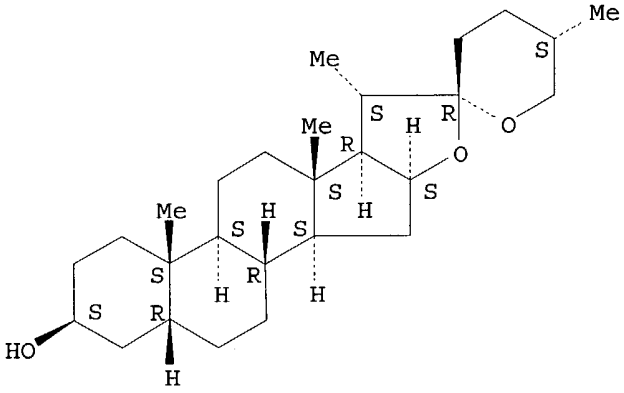
RN 126-18-1 HCAPLUS
CN Spirostan-3-ol, (3β,5β,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



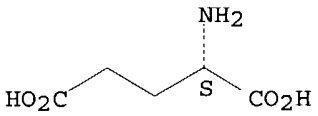
RN 126-19-2 HCAPLUS
CN Spirostan-3-ol, (3β,5β,25S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 142-47-2 HCAPLUS
CN L-Glutamic acid, monosodium salt (9CI) (CA INDEX NAME)

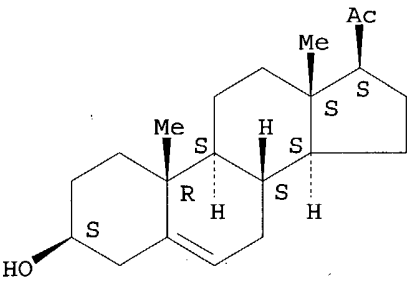
Absolute stereochemistry.



● Na

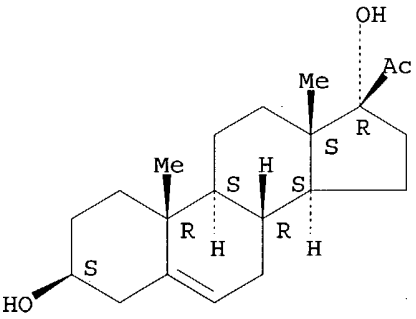
RN 145-13-1 HCAPLUS
CN Pregn-5-en-20-one, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



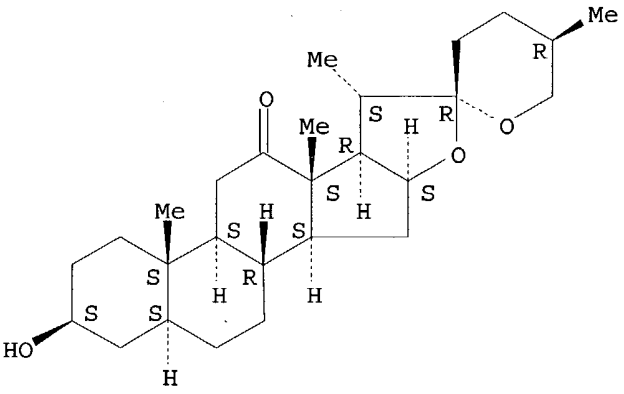
RN 387-79-1 HCAPLUS
CN Pregn-5-en-20-one, 3,17-dihydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



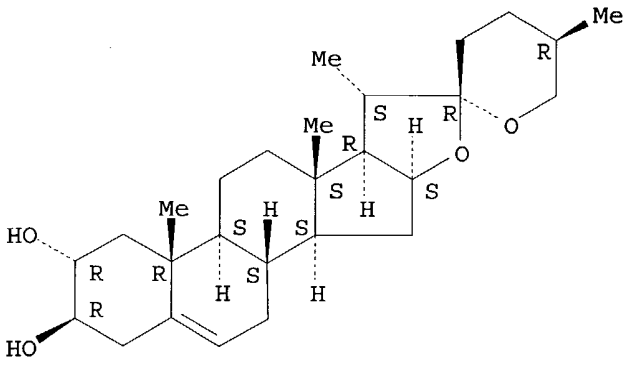
RN 467-55-0 HCAPLUS
CN Spirostan-12-one, 3-hydroxy-, (3β,5α,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



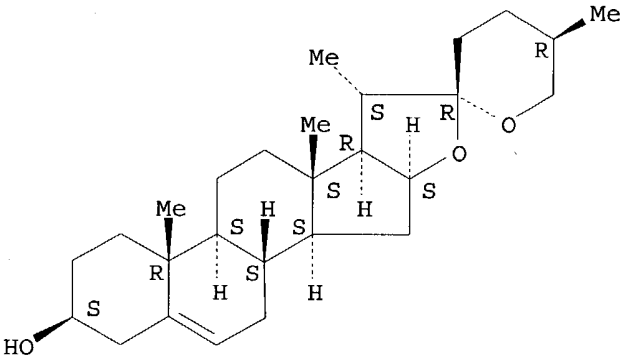
RN 511-97-7 HCAPLUS
CN Spirost-5-ene-2,3-diol, (2α,3β,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



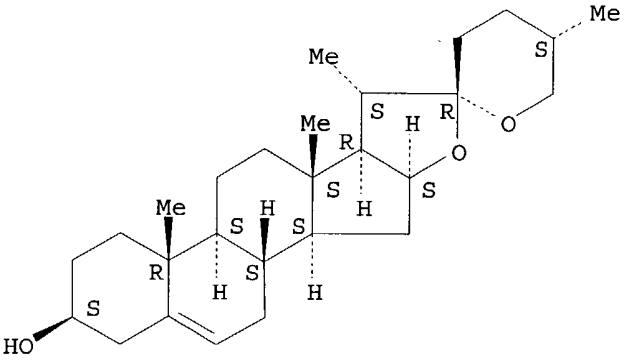
RN 512-04-9 HCAPLUS
CN Spirost-5-en-3-ol, (3β,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



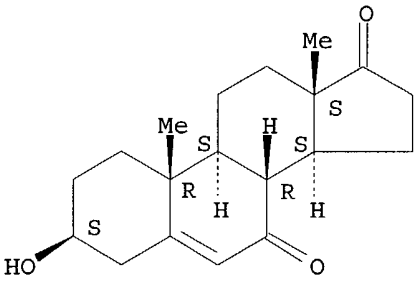
RN 512-06-1 HCAPLUS
CN Spirost-5-en-3-ol, (3β,25S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



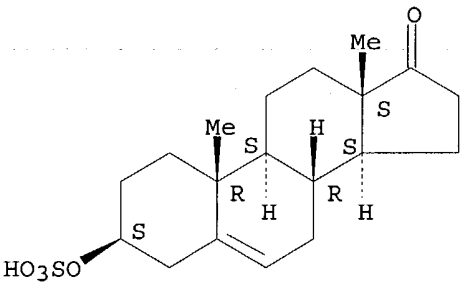
RN 566-19-8 HCAPLUS
CN Androst-5-ene-7,17-dione, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



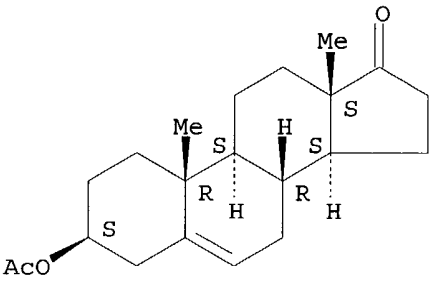
RN 651-48-9 . HCAPLUS
CN Androst-5-en-17-one, 3-(sulfooxy)-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



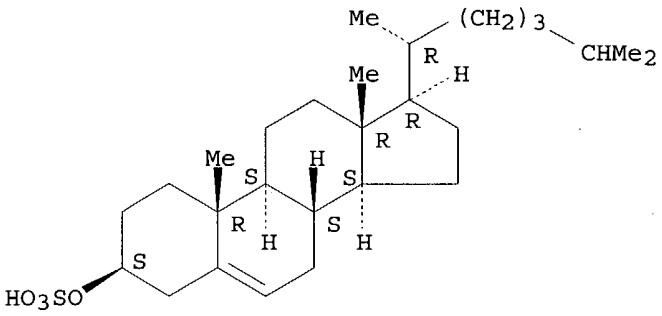
RN 853-23-6 HCAPLUS
CN Androst-5-en-17-one, 3-(acetyloxy)-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



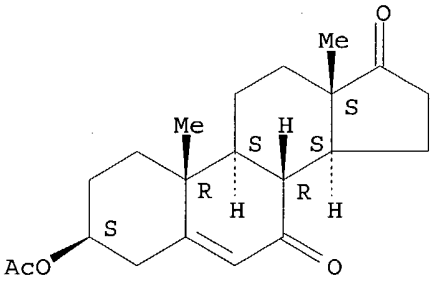
RN 1256-86-6 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, hydrogen sulfate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



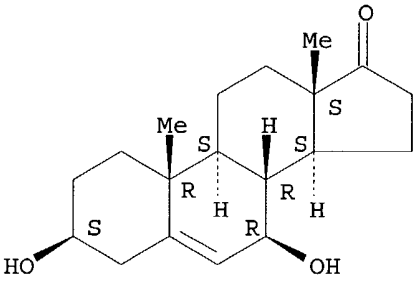
RN 1449-61-2 HCAPLUS
CN Androst-5-ene-7,17-dione, 3-(acetyloxy)-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



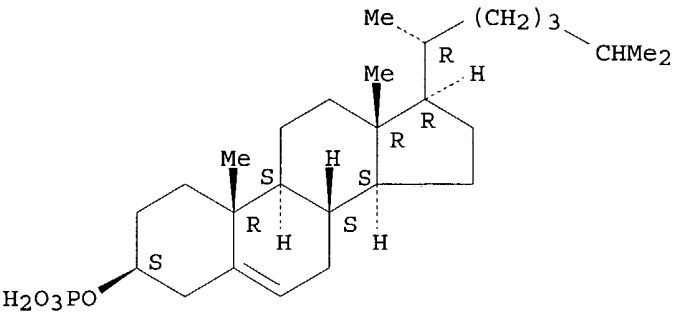
RN 2487-48-1 HCAPLUS
CN Androst-5-en-17-one, 3,7-dihydroxy-, (3β,7β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

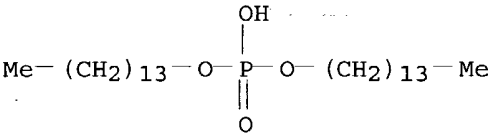


RN 4358-16-1 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, dihydrogen phosphate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

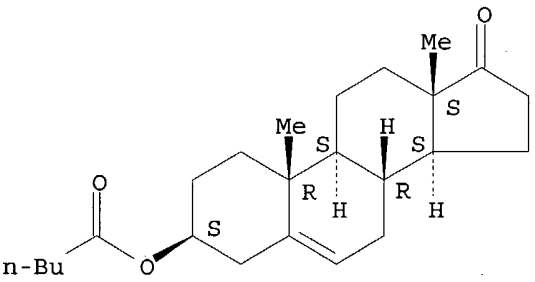


RN 6640-03-5 HCAPLUS
CN 1-Tetradecanol, hydrogen phosphate (8CI, 9CI) (CA INDEX NAME)



RN 7642-68-4 HCAPLUS
CN Androst-5-en-17-one, 3-[(1-oxopentyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



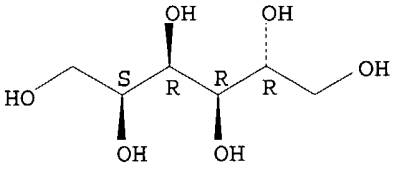
RN 9005-63-4 HCAPLUS
CN Sorbitan, poly(oxy-1,2-ethanediyl) derivs. (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 12441-09-7 HCAPLUS
CN Sorbitan (6CI, 9CI) (CA INDEX NAME)

CM 1

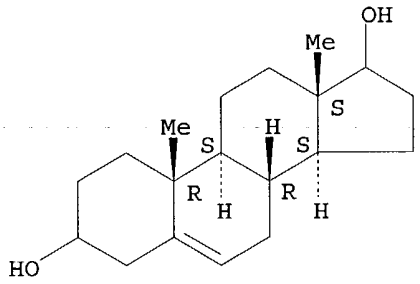
CRN 50-70-4
CMF C6 H14 O6

Absolute stereochemistry.



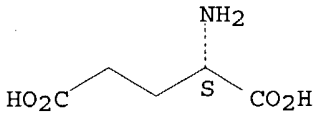
RN 14504-94-0 HCAPLUS
CN Androst-5-ene-3,17-diol (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 16690-92-9 HCAPLUS
CN L-Glutamic acid, disodium salt (9CI) (CA INDEX NAME)

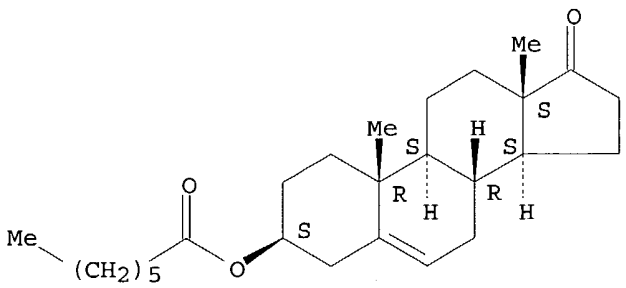
Absolute stereochemistry.



●2 Na

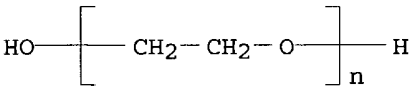
RN 23983-43-9 HCAPLUS
CN Androst-5-en-17-one, 3-[(1-oxoheptyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 25322-68-3 HCAPLUS

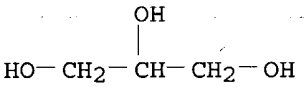
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



RN 25618-55-7 HCAPLUS
CN 1,2,3-Propanetriol, homopolymer (9CI) (CA INDEX NAME)

CM 1

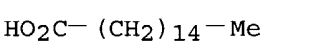
CRN 56-81-5
CMF C3 H8 O3



RN 26266-57-9 HCAPLUS
CN Sorbitan, monohexadecanoate (9CI) (CA INDEX NAME)

CM 1

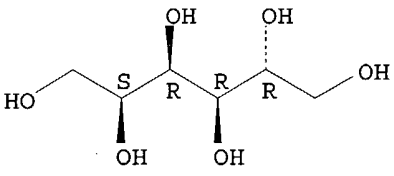
CRN 57-10-3
CMF C16 H32 O2



CM 2

CRN 50-70-4
CMF C6 H14 O6

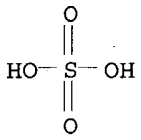
Absolute stereochemistry.



RN 28901-70-4 HCAPLUS
CN Pregn-5-en-20-one, 3,17-dihydroxy-, mono(hydrogen sulfate), (3β)- (9CI) (CA INDEX NAME)

CM 1

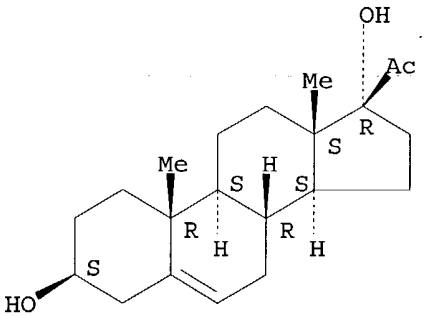
CRN 7664-93-9
CMF H2 O4 S



CM 2

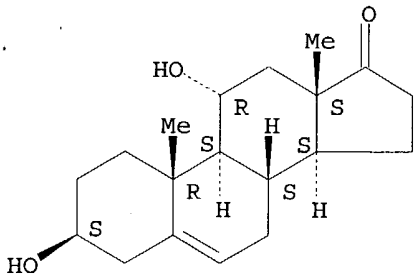
CRN 387-79-1
CMF C21 H32 O3

Absolute stereochemistry.



RN 39663-17-7 HCAPLUS
CN Androst-5-en-17-one, 3,11-dihydroxy-, (3β,11α)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 63119-59-5 HCAPLUS
CN Octadecanoic acid, diester with oxybis[propanediol] (9CI) (CA INDEX NAME)

CM 1

CRN 59113-36-9
CMF C6 H14 O5
CCI IDS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

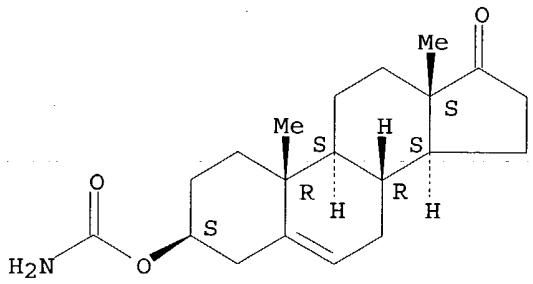
CM 2

CRN 57-11-4
CMF C18 H36 O2

$HO_2C-(CH_2)_{16}-Me$

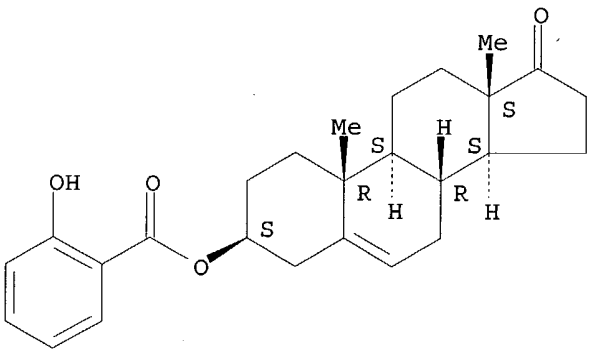
RN 103596-99-2 HCAPLUS
CN Androst-5-en-17-one, 3-[(aminocarbonyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



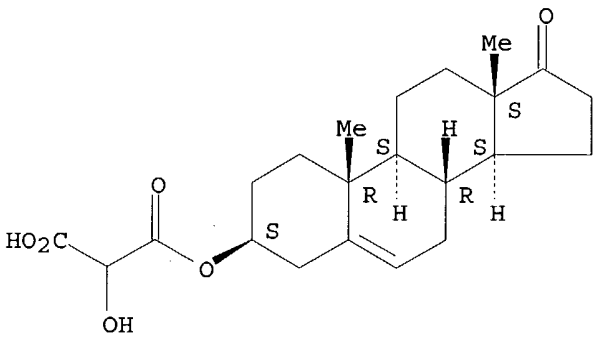
RN 188750-82-5 HCAPLUS
CN Androst-5-en-17-one, 3-[(2-hydroxybenzoyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



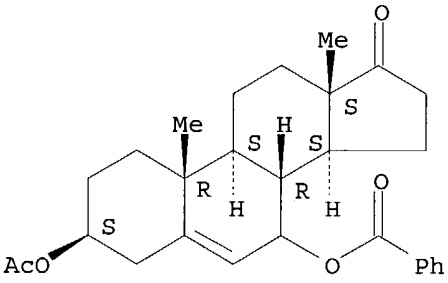
RN 363139-74-6 HCAPLUS
CN Androst-5-en-17-one, 3-[(carboxyhydroxyacetyl)oxy]-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 494796-45-1 HCAPLUS
CN Androst-5-en-17-one, 3-(acetyloxy)-7-(benzoyloxy)-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L18 ANSWER 7 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:658594 HCAPLUS
DOCUMENT NUMBER: 137:174985
TITLE: Method of manufacturing **liposomes**
INVENTOR(S): Niemiec, Susan; Nystrand, Glenn A.; Wang, Jonas C. T.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 11 pp., Cont.-in-part of U.S. Ser. No. 779,069.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002119188	A1	20020829	US 2001-939878	20010827
US 2002001613	A1	20020103	US 2001-779069	20010209
WO 2003017978	A1	20030306	WO 2002-US4032	20020208

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,

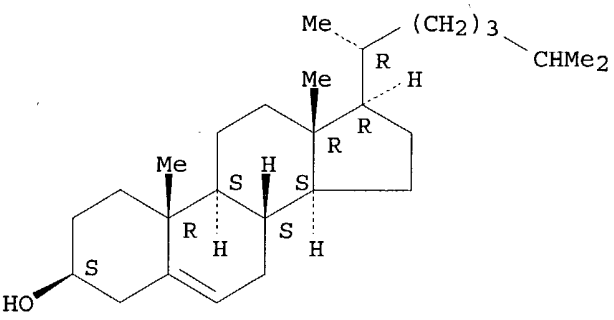
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2000-181019P P 20000208
US 2001-779069 A2 20010209
US 2001-939878 A 20010827

AB The present invention relates to a method of making a **liposome**, the method comprising the steps of: (a) mixing a lipophilic phase and a **hydrophilic** phase, the lipophilic phase comprising an **amphiphilic** bilayer-forming substance; and (b) applying a shear force to the mixture to form the **liposome**; wherein the shear force is created by passing the mixture by a member at a velocity sufficient to create turbulence in the mixture

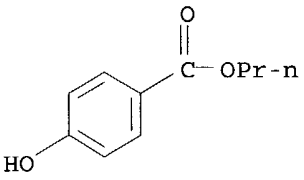
IT **646-06-0**, Dioxolane
RL: ANT (Analyte); ANST (Analytical study)
(method of manufacturing **liposomes**)
RN 646-06-0 HCAPLUS
CN 1,3-Dioxolane (6CI, 8CI, 9CI) (CA INDEX NAME)

IT **57-88-5**, **Cholesterol**, uses **94-13-3**, Propyl Paraben **99-76-3**, Methyl Paraben **994-36-5**, Sodium Citrate **1323-83-7**, Glyceryl distearate **7732-18-5**, Water, uses **9005-00-9**, Polyoxyethylene stearyl ether **13463-41-7**, Zinc Pyrithione **27638-00-2**, Glyceryl dilaurate **67914-69-6**, Elubiol **152390-17-5D**, alkyl derivs.
RL: NUU (Other use, unclassified); USES (Uses)
(method of manufacturing **liposomes**)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

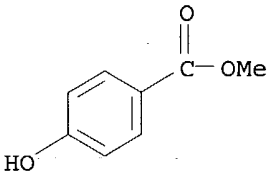
Absolute stereochemistry.



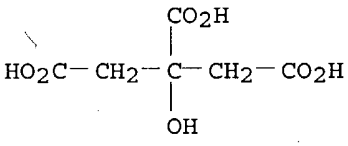
RN 94-13-3 HCAPLUS
CN Benzoic acid, 4-hydroxy-, propyl ester (9CI) (CA INDEX NAME)



RN 99-76-3 HCAPLUS
CN Benzoic acid, 4-hydroxy-, methyl ester (9CI) (CA INDEX NAME)



RN 994-36-5 HCAPLUS
CN 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, sodium salt (9CI) (CA INDEX NAME)



●x Na

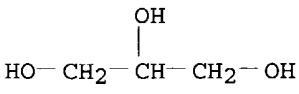
RN 1323-83-7 HCAPLUS
CN Octadecanoic acid, diester with 1,2,3-propanetriol (9CI) (CA INDEX NAME)

CM 1

CRN 57-11-4
CMF C18 H36 O2

CM 2

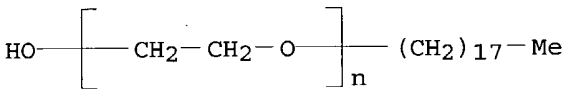
CRN 56-81-5
CMF C3 H8 O3



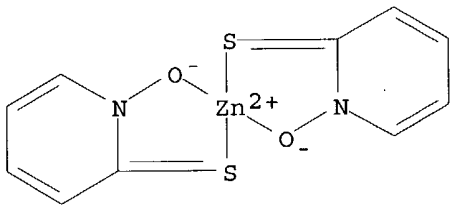
RN 7732-18-5 HCAPLUS
CN Water (8CI, 9CI) (CA INDEX NAME)

H_2O

RN 9005-00-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-octadecyl-ω-hydroxy- (9CI) (CA INDEX NAME)



RN 13463-41-7 HCAPLUS
CN Zinc, bis[1-(hydroxy-κO)-2(1H)-pyridinethionato-κS2]-, (T-4)- (9CI) (CA INDEX NAME)



RN 27638-00-2 HCAPLUS
CN Dodecanoic acid, diester with 1,2,3-propanetriol (9CI) (CA INDEX NAME)

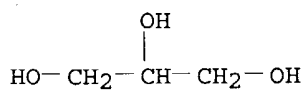
CM 1

CRN 143-07-7
CMF C12 H24 O2

$HO_2C-(CH_2)_{10}-Me$

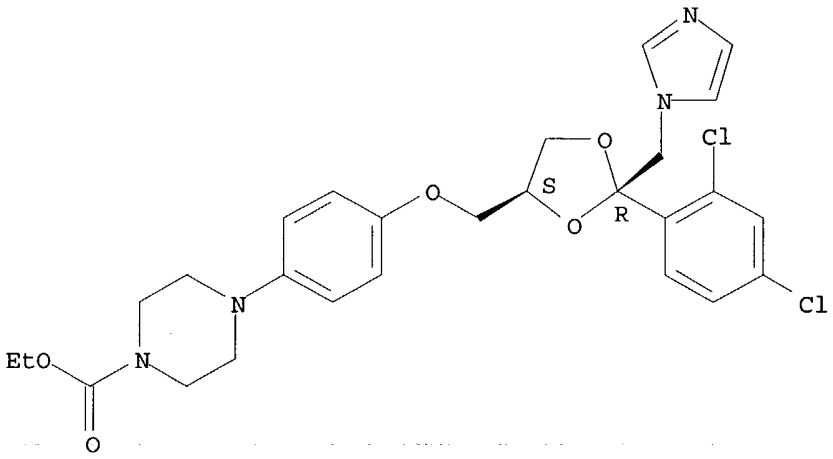
CM 2

CRN 56-81-5
CMF C3 H8 O3



RN 67914-69-6 HCAPLUS
CN 1-Piperazinecarboxylic acid, 4-[4-[[(2R,4S)-2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-, ethyl ester, rel- (9CI) (CA INDEX NAME)

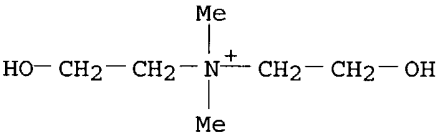
Relative stereochemistry.



RN 152390-17-5 HCAPLUS
CN Ethanaminium, 2-hydroxy-N-(2-hydroxyethyl)-N,N-dimethyl-, methanesulfonate (salt) (9CI) (CA INDEX NAME)

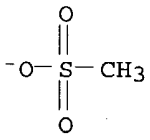
CM 1

CRN 44798-79-0
CMF C6 H16 N O2



CM 2

CRN 16053-58-0
CMF C H3 O3 S



L18 ANSWER 8 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:246129 HCAPLUS
DOCUMENT NUMBER: 137:299706
TITLE: Nanoparticles and polymeric **vesicles** from new poly-L-lysine based amphiphiles
AUTHOR(S): Uchegbu, Ijeoma F.; Tetley, Laurence; Wang, Wei
CORPORATE SOURCE: Department of Pharmaceutical Sciences, University of

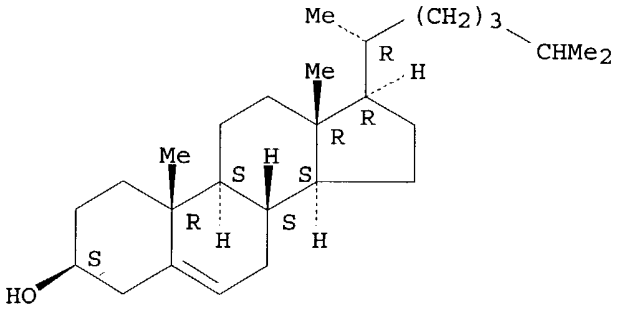
Strathclyde, Glasgow, G4 0NR, UK
SOURCE: Materials Research Society Symposium Proceedings (2001), 662(Biomaterials for Drug Delivery and Tissue Engineering), NN6.8/1-NN6.8/6
CODEN: MRSPDH; ISSN: 0272-9172
PUBLISHER: Materials Research Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Nanoparticles and polymeric **vesicles** for drug delivery and other industrial applications have been prepared by the probe sonication of poly-L-lysine graft copolymer amphiphiles in aqueous media. The amphiphiles, which have a poly-L-lysine backbone and varied levels of both **hydrophilic** methoxypolyethylene glycol (Mw .apprx. 5,000) and hydrophobic palmitoyl pendant groups, were prepared from 2 different mol. weight poly-L-lysine hydrobromide samples (Mw .apprx.4,000 and .apprx.20,000 resp.). Poly-L-lysine based **amphiphilic** polymers (PLPs) were characterized using light scattering, 1H NMR and an assay for the level of free amino groups. Steric factors appear to limit the final level of lysine group modification that can be achieved and even an excess amount of grafting reactants still resulted in the production of polymers in which 22 - 26 mol% of the lysine terminal amino groups remain unsubstituted. Polymeric unilamellar **vesicles** (220 - 570nm in diameter) imaged by electron microscopy were produced by probe sonication of PLP, **cholesterol. Vesicle** formation was possible over a narrow spectrum of polymer architecture and was favored by a low mol. weight and a low level of palmitoyl substitution. Probe sonication of an aqueous dispersion of PLP samples resulted in the production of stable nanoparticles (80 - 170nm in diameter) as imaged by electron microscopy. Nanoparticles were able to encapsulate the **hydrophilic** fluorophore fluorescein isothiocyanate (FITC)-dextran and encapsulation increased as the level of unreacted lysine terminal amino groups in PLP increased thus increasing as the level of **hydrophilic** domains increased. The size of both the nanoparticles and the **vesicles** was directly influenced by the mol. weight of PLP. PLPs of mol. weight 32,000 - 48,000 and 89,000 - 140,000 resulted in nanoparticles of 85 - 114 nm and 125 - 167 nm in diameter resp. and PLP of mol. weight 25,000 and 89,000 gave rise to polymeric **vesicles** of 252 nm and 570 nm in diameter resp.

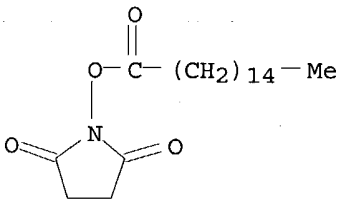
IT **57-88-5**, **Cholesterol**, biological studies
14464-31-4D, polylysine amide derivs. **38000-06-5D**,
palmitamide, polyethylene glycol amide derivs. **124661-64-9D**,
polylysine amide derivs.
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(nanoparticles and polymeric **vesicles** from poly-L-lysine-based amphiphiles)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

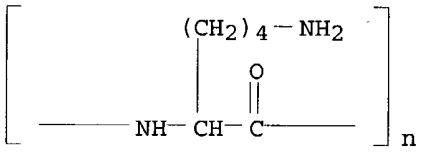
Absolute stereochemistry.



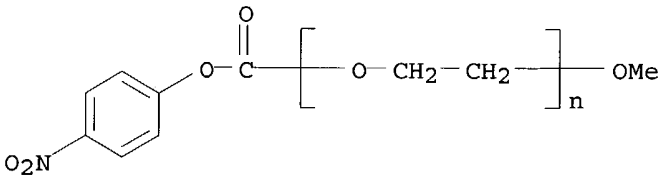
RN 14464-31-4 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(1-oxohexadecyl)oxy]- (9CI) (CA INDEX NAME)



RN 38000-06-5 HCAPLUS
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



RN 124661-64-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-nitrophenoxy)carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)

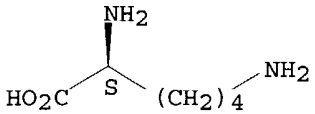


IT **25104-18-1**, Poly-L-lysine **38000-06-5**, Poly-L-lysine
RL: RCT (Reactant); RACT (Reactant or reagent)
(nanoparticles and polymeric **vesicles** from poly-L-lysine-based amphiphiles)
RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

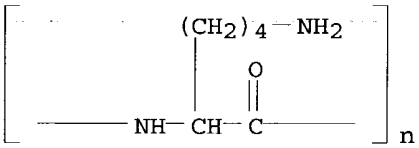
CM 1

CRN 56-87-1
CMF C6 H14 N2 O2

Absolute stereochemistry.



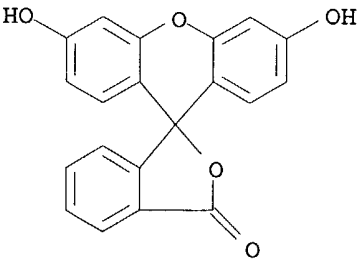
RN 38000-06-5 HCAPLUS
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



IT **60842-46-8**, FITC-dextran
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(nanoparticles and polymeric **vesicles** from poly-L-lysine-based amphiphiles: FITC-dextran encapsulation)
RN 60842-46-8 HCAPLUS
CN Dextran, (3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5(or 6)-yl)carbamothioate (9CI) (CA INDEX NAME)

CM 1

CRN 77881-69-7
CMF C21 H13 N O6 S
CCI IDS



D1—NH—COSH

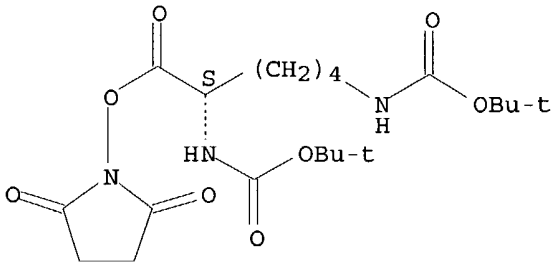
CM 2

CRN 9004-54-0
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

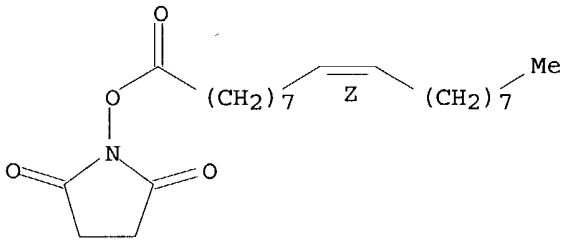
L18 ANSWER 9 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:18490 HCAPLUS
DOCUMENT NUMBER: 137:174748
TITLE: Poly(HPMA)-coated **liposomes** demonstrate prolonged circulation in mice
AUTHOR(S): Whiteman, K. R.; Subr, V.; Ulbrich, K.; Torchilin, V. P.
CORPORATE SOURCE: Department of Pharmaceutical Sciences, Northeastern University, Boston, MA, 02115, USA
SOURCE: Journal of Liposome Research (2001), 11(2 & 3), 153-164
CODEN: JLREE7; ISSN: 0898-2104
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Surface modification of **liposomes** with **amphiphilic** flexible polymers significantly prolongs their circulation time in blood and reduces uptake by cells of the reticuloendothelial system (RES). Several polymers have already been shown to provide steric protection to **liposomes.** Still more polymers are expected to serve this purpose, thus broadening the variability of properties of long-circulating **liposomes.** Poly[N-(2-hydroxypropyl)methacrylamide] (poly (HPMA)) seems to have some properties similar to polyethylene glycol (PEG), the most widely used polymer in **liposome** surface modification, including flexibility, **hydrophilicity** and low immunogenicity, which suggest that it may also function as an efficient steric protector of **liposomes.** Semitelechelic poly(HPMA) with single- or double-oleic acid hydrophobic terminus were synthesized and incorporated into the surface of **liposomes** composed of phosphatidylcholine and **cholesterol.** These poly(HPMA)-modified **liposomes** provided strong steric protection for **liposomes**, increasing their circulation time and decreasing liver accumulation in exptl. mice. Poly(HPMA)-modified **liposomes** may become a useful addition to a family of long-circulating **liposomes** with potential to be used as a drug delivery system.
IT **30189-36-7DP**, oleic polymethacrylamide conjugates
81480-40-2DP, polymethacrylamide conjugates
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(poly(HPMA)-coated **liposomes** demonstrate prolonged circulation in mice)
RN 30189-36-7 HCAPLUS
CN Carbamic acid, [(1S)-1-[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]-1,5-pentanediyl]bis-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 81480-40-2 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[[(9Z)-1-oxo-9-octadecenyl]oxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **446880-21-3DP**, oleic conjugates
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(poly(HPMA)-coated **liposomes** demonstrate prolonged circulation in mice)
RN 446880-21-3 HCAPLUS
CN 2-Propenamide, N-(2-hydroxypropyl)-2-methyl-, telomer with 2-aminoethanethiol hydrochloride (9CI) (CA INDEX NAME)

CM 1

CRN 156-57-0
CMF C2 H7 N S . Cl H

$H_2N-CH_2-CH_2-SH$

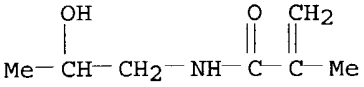
● HCl

CM 2

CRN 40704-75-4
CMF (C7 H13 N O2)x
CCI PMS

CM 3

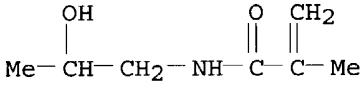
CRN 21442-01-3
CMF C7 H13 N O2



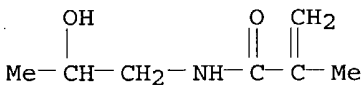
IT **40704-75-4**, Poly[N-(2-hydroxypropyl)methacrylamide]
RL: DEV (Device component use); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(poly(HPMA)-coated **liposomes** demonstrate prolonged circulation in mice)
RN 40704-75-4 HCAPLUS
CN 2-Propenamide, N-(2-hydroxypropyl)-2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 21442-01-3
CMF C7 H13 N O2

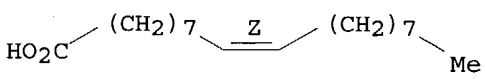


IT **21442-01-3P**, N-(2-Hydroxypropyl)methacrylamide
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(poly(HPMA)-coated **liposomes** demonstrate prolonged circulation in mice)
RN 21442-01-3 HCAPLUS
CN 2-Propenamide, N-(2-hydroxypropyl)-2-methyl- (9CI) (CA INDEX NAME)



IT **112-80-1**, Oleic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(poly(HPMA)-coated **liposomes** demonstrate prolonged circulation in mice)
RN 112-80-1 HCAPLUS
CN 9-Octadecenoic acid (9Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:10985 HCAPLUS
DOCUMENT NUMBER: 136:74669
TITLE: Method of manufacturing **liposomes**
INVENTOR(S): Niemiec, Susan; Nystrand, Glenn A.; Wang, Jonas C. T.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

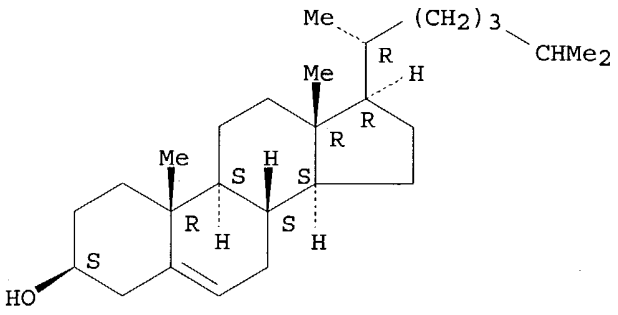
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2002001613	A1	20020103	US 2001-779069		20010209
US 2002119188	A1	20020829	US 2001-939878		20010827
PRIORITY APPLN. INFO.:			US 2000-181019P	P	20000208
			US 2001-779069	A2	20010209

AB The present invention relates to a method of making a **liposome**, said method comprising the steps of: (a) mixing a lipophilic phase and a **hydrophilic** phase, said lipophilic phase comprising an **amphiphilic** bilayer-forming substance; and (b) applying a cavitational sheer force to said mixture to form said **liposome**; wherein said cavitational force is created by contacting said mixture with a member that vibrates at an ultrasonic frequency.

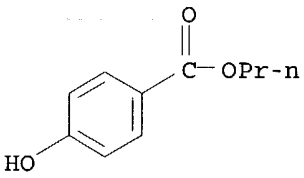
IT **646-06-0**, Dioxolane
RL: ANT (Analyte); ANST (Analytical study)
(method of manufacturing **liposomes**)
RN 646-06-0 HCAPLUS
CN 1,3-Dioxolane (6CI, 8CI, 9CI) (CA INDEX NAME)

IT **57-88-5**, **Cholesterol**, uses **94-13-3**, Propyl Paraben **99-76-3**, Methyl Paraben **994-36-5**, Sodium Citrate **1323-83-7**, Glyceryl distearate **7732-18-5**, Water, uses **9005-00-9**, Polyoxyethylene stearyl ether **13463-41-7**, Zinc Pyrithione **27638-00-2**, Glyceryl dilaurate **152390-17-5D**, alkyl derivs.
RL: NUU (Other use, unclassified); USES (Uses)
(method of manufacturing **liposomes**)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

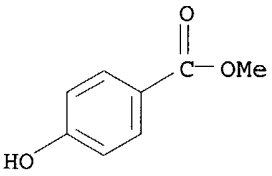
Absolute stereochemistry.



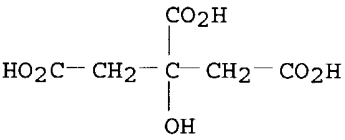
RN 94-13-3 HCAPLUS
CN Benzoic acid, 4-hydroxy-, propyl ester (9CI) (CA INDEX NAME)



RN 99-76-3 HCAPLUS
CN Benzoic acid, 4-hydroxy-, methyl ester (9CI) (CA INDEX NAME)



RN 994-36-5 HCAPLUS
CN 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, sodium salt (9CI) (CA INDEX NAME)



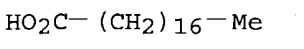
●x Na

RN 1323-83-7 HCAPLUS
CN Octadecanoic acid, diester with 1,2,3-propanetriol (9CI) (CA INDEX NAME)

CM 1

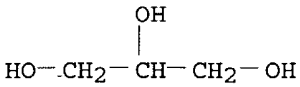
CRN 57-11-4

CMF C18 H36 O2



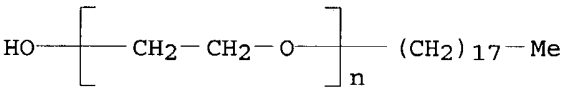
CM 2

CRN 56-81-5
CMF C3 H8 O3

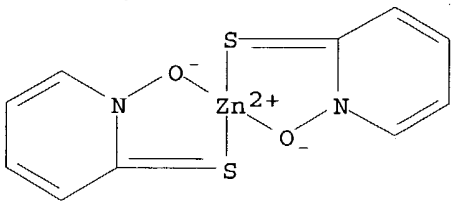


RN 7732-18-5 HCAPLUS
CN Water (8CI, 9CI) (CA INDEX NAME)

RN 9005-00-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-octadecyl-ω-hydroxy- (9CI) (CA INDEX NAME)



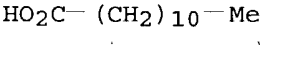
RN 13463-41-7 HCAPLUS
CN Zinc, bis[1-(hydroxy-κO)-2(1H)-pyridinethionato-κS2]-, (T-4)- (9CI) (CA INDEX NAME)



RN 27638-00-2 HCAPLUS
CN Dodecanoic acid, diester with 1,2,3-propanetriol (9CI) (CA INDEX NAME)

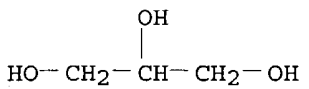
CM 1

CRN 143-07-7
CMF C12 H24 O2



CM 2

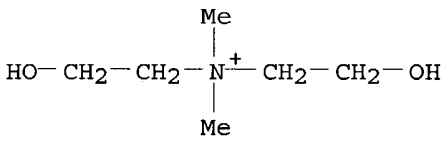
CRN 56-81-5
CMF C3 H8 O3



RN 152390-17-5 HCAPLUS
CN Ethanaminium, 2-hydroxy-N-(2-hydroxyethyl)-N,N-dimethyl-, methanesulfonate (salt) (9CI) (CA INDEX NAME)

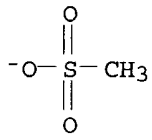
CM 1

CRN 44798-79-0
CMF C6 H16 N O2



CM 2

CRN 16053-58-0
CMF C H3 O3 S



L18 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:650475 HCAPLUS
DOCUMENT NUMBER: 135:215994
TITLE: **Amphiphilic** materials and **liposome** formulations thereof
INVENTOR(S): Aneja, Rajindra
PATENT ASSIGNEE(S): Nutrimed Biotech, USA
SOURCE: U.S., 34 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

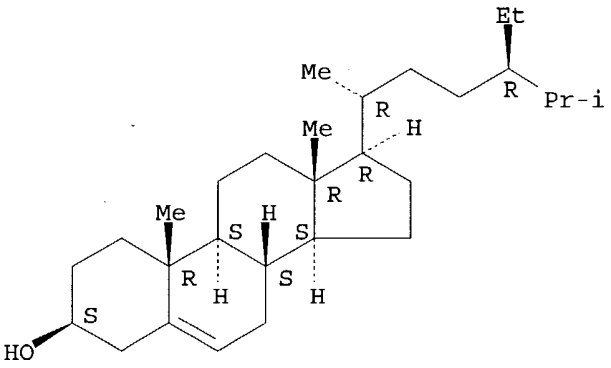
US 6284267	B1	20010904	US 1997-912978	19970813
US 6699499	B1	20040302	US 2001-879368	20010611
PRIORITY APPLN. INFO.:			US 1996-24382P P	19960814
			US 1997-912978 A3	19970813

AB Disclosed is a new structural class of **amphiphilic** mols. which incorporate a **hydrophilic** material or polymer attached, at spatially distinct sites, to at least two hydrophobic residues. Certain of the **amphiphilic** mols. comprise a plurality of hydrophobic moieties. All such **amphiphilic** mols. have a common structural motif and, in contact with water, display surface activity and self-assemble into multimol. aggregates and liquid crystalline phases. Also disclosed are enhanced stability **liposomes** that incorporate such **amphiphilic** mols. via unique interactions, and methods of using such formulations in a variety of applications including drug delivery, nutrition, bio-diagnostics, cosmetics, blood products and related applications. Thus α,ω -bis(1,2-dioleoyl-sn-glycero-3-phospho) polyethylene-glycol(3350) [DOPA-PEG(3350)-DOPA] was prepared from polyethyleneglycol, mol weight 3350 (0.3350 g, 0.1 mmole) and 1,2-dioleoyl-sn-glycero-3-phosphoric acid (DOPA) (0,4431 g, 0.6 mmole), and characterized as a colorless glass at room temperature, yield 0.3428 g (72.8%). A solution of DOPA-PEG(3350)-DOPA and **cholesterol** (molar ratio 1:1) in chloroform was evaporated under nitrogen to a thin film and kept under a high vacuum for 2 h. The film was hydrated with 100 mmolar NaCl at 30° and equilibrated at room temperature for 24 h. X-ray crystallog. indicated solubilization of **cholesterol** by interdigitation in the lyotropic mesophase of DOPA-PEG(33500)-DOPA with stretching of the PEG canopy and consequent shrinkage of the aqueous distance dw.

IT **83-46-5**, β-Sitosterol **112-77-6**, Oleoyl chloride **2442-61-7**, 1,2-Dioleoylglycerol **7664-38-2D**, Phosphoric acid, acetyl/ceramido derivs., reactions **14268-17-8** **17966-25-5** **25322-68-3**, Polyethyleneglycol **51063-97-9**, 1,2-Distearoylglycerol **72719-84-7** **127512-29-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(**amphiphilic** materials and **liposome** formulations thereof)

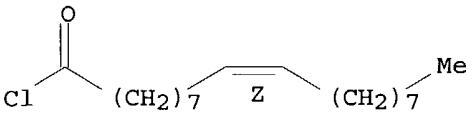
RN 83-46-5 HCAPLUS
CN Stigmast-5-en-3-ol, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 112-77-6 HCAPLUS
CN 9-Octadecenoyl chloride, (9Z)- (9CI) (CA INDEX NAME)

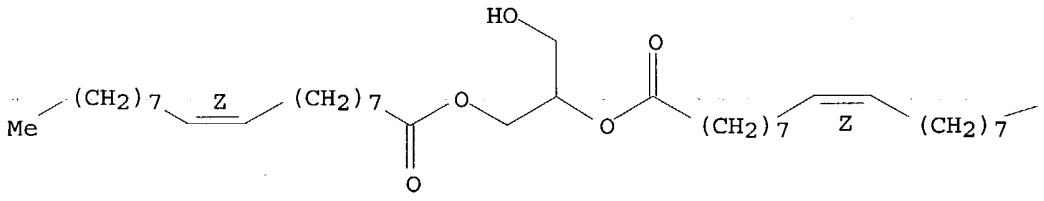
Double bond geometry as shown.



RN 2442-61-7 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 1-(hydroxymethyl)-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

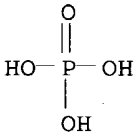
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

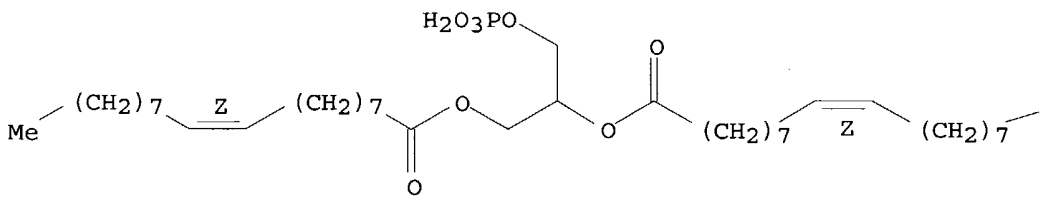
RN 7664-38-2 HCAPLUS
CN Phosphoric acid (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 14268-17-8 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 1-[(phosphonooxy)methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

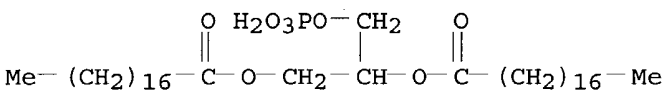
Double bond geometry as shown.

PAGE 1-A

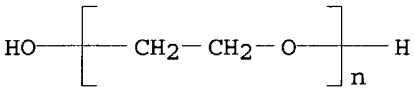


Me

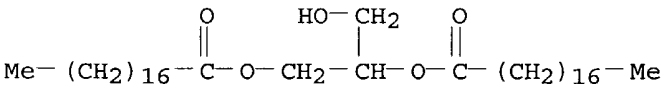
RN 17966-25-5 HCAPLUS
CN Octadecanoic acid, 1-[(phosphonooxy)methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



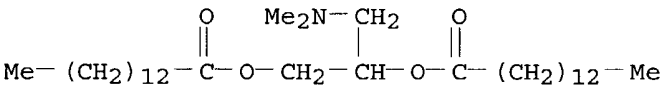
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



RN 51063-97-9 HCAPLUS
CN Octadecanoic acid, 1-(hydroxymethyl)-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



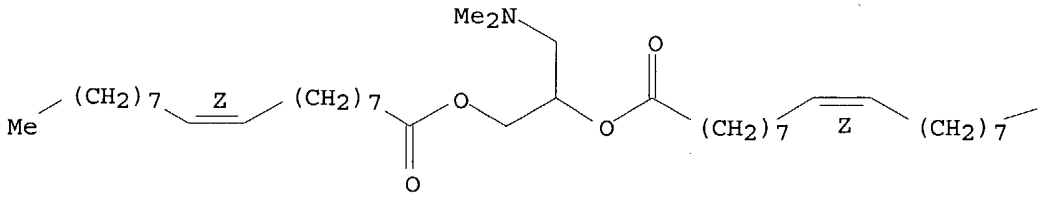
RN 72719-84-7 HCAPLUS
CN Tetradecanoic acid, 1-[(dimethylamino)methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 127512-29-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 1-[(dimethylamino)methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

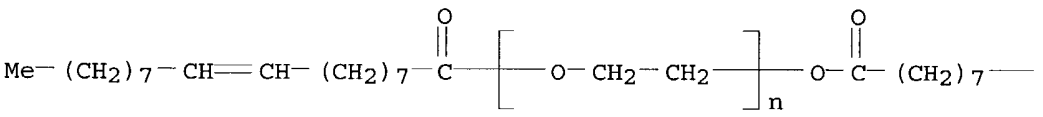
Me

IT **9005-07-6P 357941-83-4P 357941-84-5P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**amphiphilic** materials and **liposome** formulations thereof)

RN 9005-07-6 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-[(9Z)-1-oxo-9-octadecenyl]-ω-[[(9Z)-1-oxo-9-octadecenyl]oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



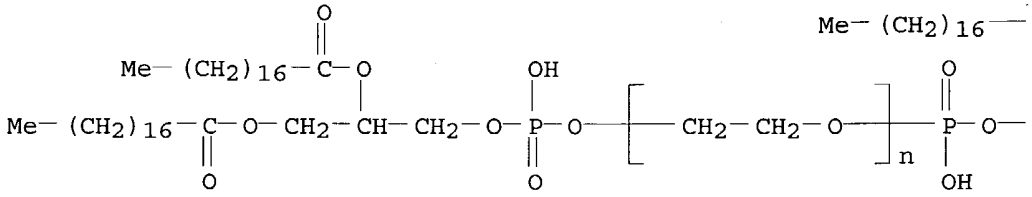
PAGE 1-B

— CH═ CH— $(CH_2)_7$ — Me

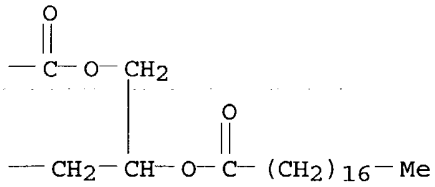
RN 357941-83-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-[[2,3-bis[(1-oxooctadecyl)oxy]propoxy]hydroxyphosphinyl]-ω-[[[2,3-bis[(1-oxooctadecyl)oxy]propoxy]hydroxyphosphinyl]oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A

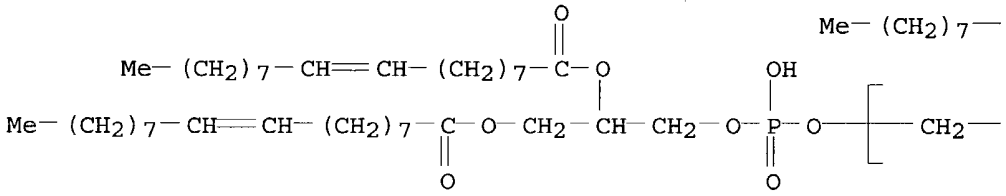


PAGE 1-B

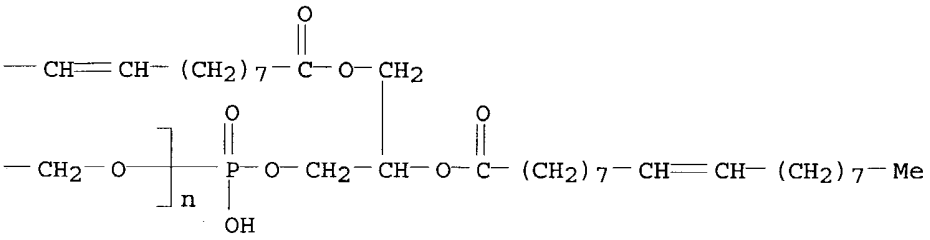


RN 357941-84-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[[2,3-bis[[(9Z)-1-oxo-9-octadecenyl]oxy]propoxy]hydroxyphosphinyl]-ω-[[[2,3-bis[[(9Z)-1-oxo-9-octadecenyl]oxy]propoxy]hydroxyphosphinyl]oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



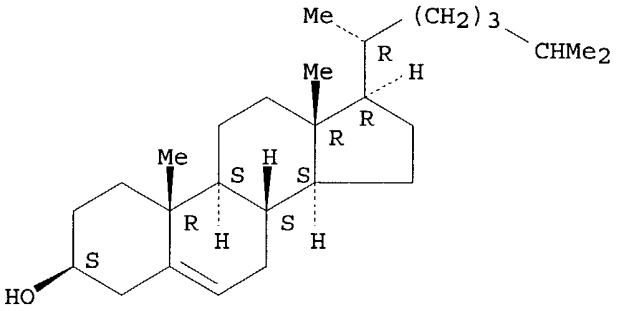
PAGE 1-B



IT **57-88-5**, **Cholesterol**, biological studies
33069-62-4, Paclitaxel
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**amphiphilic** materials and **liposome** formulations thereof)

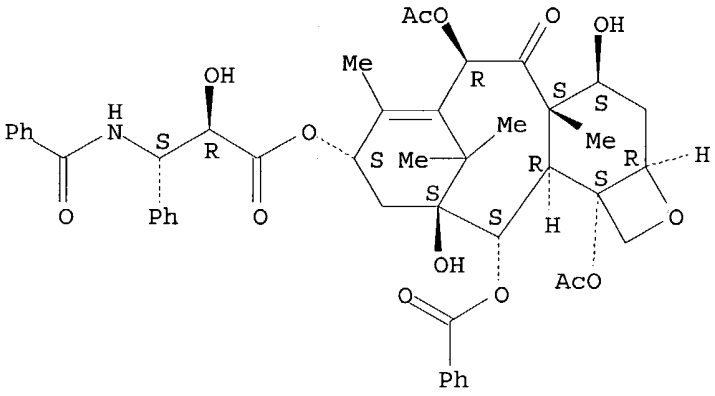
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 33069-62-4 HCAPLUS
CN Benzenepropanoic acid, β-(benzoylamino)-α-hydroxy-, (2aR,4S,4aS,6R,9S,11S,12S,12aR,12bS)-6,12b-bis(acetyloxy)-12-(benzoyloxy)-2a,3,4,4a,5,6,9,10,11,12,12a,12b-dodecahydro-4,11-dihydroxy-4a,8,13,13-tetramethyl-5-oxo-7,11-methano-1H-cyclodeca[3,4]benz[1,2-b]oxet-9-yl ester, (αR,βS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

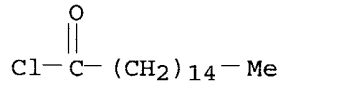
L18 ANSWER 12 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:628093 HCAPLUS
DOCUMENT NUMBER: 137:10816
TITLE: **Amphiphilic** poly-N-vinylpyrrolidones: synthesis, properties and **liposome** surface modification
AUTHOR(S): Torchilin, V. P.; Levchenko, T. S.; Whiteman, K. R.; Yaroslavov, A. A.; Tsatsakis, A. M.; Rizos, A. K.; Michailova, E. V.; Shtilman, M. I.
CORPORATE SOURCE: Bouve College of Health Sciences, Department of Pharmaceutical Sciences, Northeastern University, Boston, MA, 02115, USA
SOURCE: Biomaterials (2001), 22(22), 3035-3044
CODEN: BIMADU; ISSN: 0142-9612

PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Certain **amphiphilic** water-soluble polymers including **amphiphilic** derivs. of polyvinyl pyrrolidone (PVP) were found to be efficient steric protectors for **liposomes** in vivo. In this study, the authors have tried to develop synthetic pathways for preparing **amphiphilic** PVP and to investigate the influence of the **hydrophilic**/hydrophobic blocks on some properties of resulting polymers and polymer-coated **liposomes.** To prepare **amphiphilic** PVP with the end stearyl (S) or palmityl (P) residues, amino- and carboxy-terminated PVP derivs. were first synthesized by the free-radical polymerization of vinyl pyrrolidone in the presence of amino- or carboxy-mercaptans as chain transfer agents, and then modified by interaction of amino-PVP with stearoyl chloride or palmitoyl chloride, or by dicyclohexyl carbodiimide coupling of stearylamine with carboxy-PVP. ESR-spectra of the hydrophobic spin-probe, nitroxyl radical N-oxyl-2-hexyl-2-(10-methoxycarbonyl)decyl-4,4'-dimethyl oxazoline, in the presence of **amphiphilic** PVP demonstrated good accessibility of terminal P- and S-groups for the interaction with other hydrophobic ligands. Spontaneous micellization and low CMC values (in a low μmolar range) were found for **amphiphilic** PVP derivs. using the pyrene method. In general, S-PVP forms more stable micelles than P-PVP (at similar MW, CMC values for S-PVP are lower than for P-PVP). It was found that **amphiphilic** PVP incorporated into neg. charged **liposomes** effectively prevents polycation(poly-ethylpyridinium-4-vinylchloride)-induced **liposome** aggregation, completely abolishing it at ca. 10 mol% polymer content in **liposomes.** Addnl., the **liposome**-incorporated PVP prevents the fluorescence quenching of the membrane-incorporated hydrophobic fluorescent label [N-(4-fluoresceinthiocarbamoyl)dipalmitoyl-PE] by the free polycation. PVP-modified **liposomes** were loaded with a self-quenching concentration of carboxyfluorescein, and their destabilization in the presence of mouse serum was investigated following the release of free dye. **Amphiphilic** PVP with MW between 1500 and 8000 provides good steric protection for **liposomes.** The degree of this protection depends on both polymer concentration and mol. size of the PVP block.

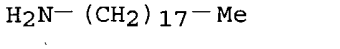
IT **112-67-4DP**, Palmitic acid chloride, amide derivs. with poly(N-vinylpyrrolidone) telomers **112-76-5DP**, Stearic acid chloride, amide derivs. with poly(N-vinylpyrrolidone) telomers **124-30-1DP**, Stearylamine, amide derivs. with poly(N-vinylpyrrolidone) telomers **103298-65-3DP**, C18-alkylamide derivs. **187673-24-1DP**, C16-18-alkylamide derivs.
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation, properties and **liposome** surface modification of **amphiphilic** poly-N-vinylpyrrolidones)

RN 112-67-4 HCAPLUS
CN Hexadecanoyl chloride (9CI) (CA INDEX NAME)



RN 112-76-5 HCAPLUS
CN Octadecanoyl chloride (9CI) (CA INDEX NAME)

RN 124-30-1 HCAPLUS
CN 1-Octadecanamine (9CI) (CA INDEX NAME)



RN 103298-65-3 HCAPLUS
CN Acetic acid, mercapto-, telomer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

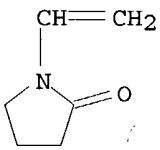
CRN 68-11-1
CMF C2 H4 O2 S

CM 2

CRN 9003-39-8
CMF (C6 H9 N O)x
CCI PMS

CM 3

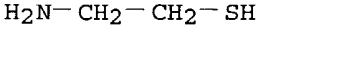
CRN 88-12-0
CMF C6 H9 N O



RN 187673-24-1 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, telomer with 2-aminoethanethiol (9CI) (CA INDEX NAME)

CM 1

CRN 60-23-1
CMF C2 H7 N S

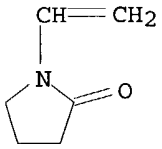


CM 2

CRN 9003-39-8
CMF (C6 H9 N O)x
CCI PMS

CM 3

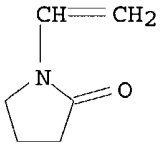
CRN 88-12-0
CMF C6 H9 N O



IT **9003-39-8**, Poly-N-vinylpyrrolidone
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation, properties and **liposome** surface modification of **amphiphilic** poly-N-vinylpyrrolidones)
RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

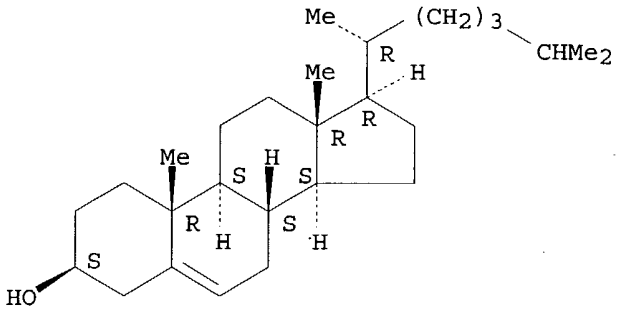
CM 1

CRN 88-12-0
CMF C6 H9 N O



IT **57-88-5**, **Cholesterol**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(preparation, properties and **liposome** surface modification of **amphiphilic** poly-N-vinylpyrrolidones)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



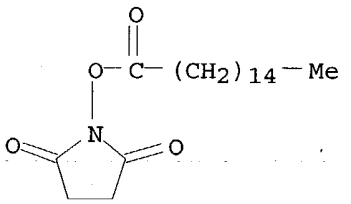
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 13 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:313924 HCAPLUS
DOCUMENT NUMBER: 135:231580
TITLE: The Level of Hydrophobic Substitution and the Molecular Weight of **Amphiphilic** Poly-L-lysine-Based Polymers Strongly Affects Their Assembly into Polymeric Bilayer **Vesicles**
AUTHOR(S): Wang, Wei; Tetley, Laurence; Uchegbu, Ijeoma F.
CORPORATE SOURCE: Department of Pharmaceutical Sciences, Strathclyde Institute of Biomedical Sciences, University of Strathclyde, Glasgow, G4 0NR, UK
SOURCE: Journal of Colloid and Interface Science (2001), 237(2), 200-207
CODEN: JCISA5; ISSN: 0021-9797
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB With the aim of producing new materials for drug and gene delivery, the variables associated with the preparation of poly-L-lysine-based **vesicles** were investigated. **Amphiphilic** poly-L-lysine graft copolymers with varying levels of grafted methoxypolyethylene glycol (mPEG) and palmitic acid were synthesized using two-step grafting reactions of the macromonomer, mPEG-p-nitrophenyl carbonate (mPEG, MW=5,000), and palmitic acid N-hydroxysuccinimide ester onto poly-L-lysine hydrobromide (MW=4,000 and 19,600). Polymers were characterized by gel permeation chromatog./light scattering. 1H NMR, and an assay for unreacted .vepsiln.-amino groups. Polymeric unilamellar **vesicles** were produced by probe sonication of the **amphiphilic** poly-L-lysine-based polymers in the presence of **cholesterol.** **Vesicles** were characterized by electron microscopy and photon correlation spectroscopy. **Vesicle** formation was favored by a low mol. weight and a low level of palmitoyl substitution. A **vesicle** formation index has been derived, F ∝ H/L DP, where H is the %molar level of unreacted L-lysine units, L is the %molar level of substituted palmitoyl units, and DP is the square root of the d.p. of the polymer. Addnl., the size of these **vesicles** may be controlled by controlling the initial mol. weight of the parent poly-L-lysine/resulting **amphiphilic** polymer. Hence, **amphiphilic** poly-L-lysine-based polymers of mol. weight=89,000 and 25,000 produced polymeric **vesicles** of z-average mean diameter 570 nm and 252 nm, resp. **Vesicle** encapsulation efficiency for the **hydrophilic** macromol., fluorescein isothiocyanate-dextran (MW=4,400), increased with **vesicle** size. (c) 2001 Academic Press.

IT **14464-31-4DP**, reaction products with poly l-lysine, methoxypolyethylene glycol-p-nitrophenyl carbonate graft polymers
359726-56-0DP, reaction products with palmitic acid N-hydroxysuccinimide ester
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(level of hydrophobic substitution and mol. weight of **amphiphilic** polylysine-based polymers affects assembly of polymeric bilayer **vesicles**)

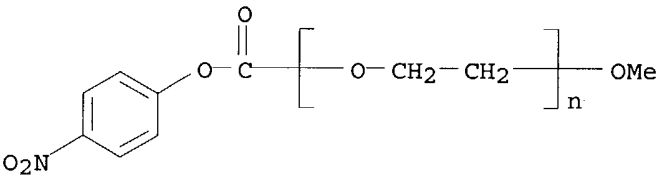
RN 14464-31-4 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(1-oxohexadecyl)oxy]- (9CI) (CA INDEX NAME)



RN 359726-56-0 HCAPLUS
CN L-Lysine, polymer with α-[(4-nitrophenoxy)carbonyl]-ω-methoxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)

CM 1

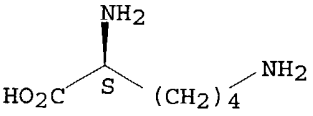
CRN 124661-64-9
CMF (C2 H4 O)n C8 H7 N O5
CCI PMS



CM 2

CRN 56-87-1
CMF C6 H14 N2 O2

Absolute stereochemistry.



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 14 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:311867 HCAPLUS
DOCUMENT NUMBER: 135:57540
TITLE: Nanotubular structure formation by a De novo-designed **amphiphilic** α-helical peptide, Hel 13-5, and various biomembrane-specific lipids
AUTHOR(S): Furuya, Tomomi; Kiyota, Taira; Lee, Sannamu; Sugihara, Gohsuke
CORPORATE SOURCE: Department of Chemistry, Fukuoka university, Fukuoka, 814-0180, Japan
SOURCE: Peptide Science (2001), Volume Date 2000, 37th, 389-392
CODEN: PSCIFQ; ISSN: 1344-7661
PUBLISHER: Japanese Peptide Society
DOCUMENT TYPE: Journal
LANGUAGE: English

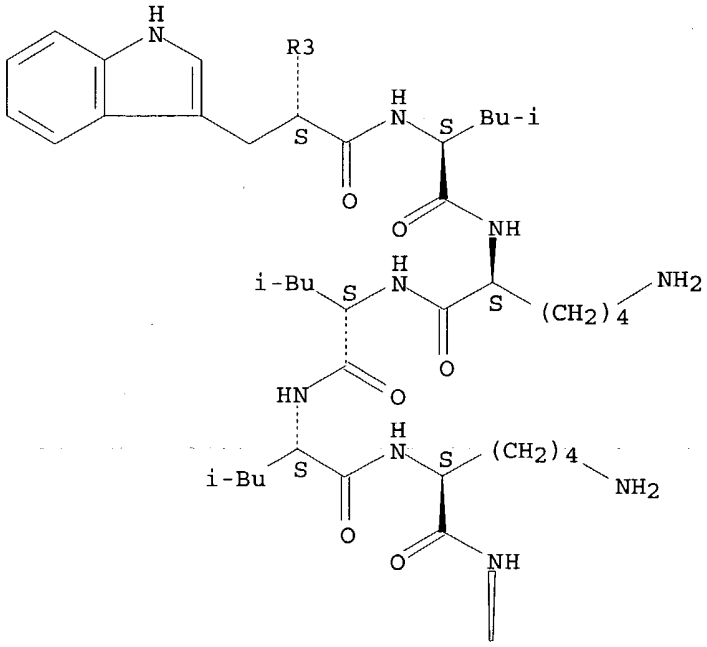
AB We previously reported that an 18-mer **amphiphilic** α-helical peptide, Hel 13-5, consisting of 13 hydrophobic residues and 5 **hydrophilic** residues, can induce neutral **liposome** (PC) to adopt twisted ribbon-like fibril structure. In the present study, we found that this structure is tubule and such fibril structure is also found for phosphatidylethanolamine (PE) or sphingomyelin (SM) and even for their mixture system containing **cholesterol** as well as egg PC. Interestingly, the microtubular structure is also formed by the interaction of Hel 13-5 with a lipid mixture based on the composition of Golgi membrane lipids.

IT **177942-21-1**, Peptide Hel 13-5 (synthetic)
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(nanotubular structure formation by a De novo-designed **amphiphilic** α-helical peptide, Hel 13-5, and various biomembrane-specific lipids)

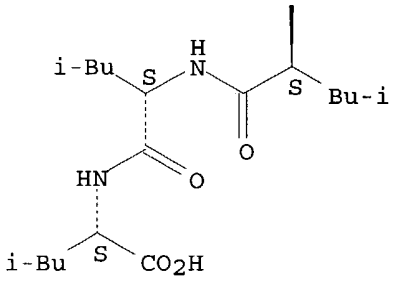
RN 177942-21-1 HCAPLUS
CN L-Leucine, L-lysyl-L-leucyl-L-leucyl-L-lysyl-L-leucyl-L-leucyl-L-leucyl-L-lysyl-L-leucyl-L-tryptophyl-L-leucyl-L-lysyl-L-leucyl-L-leucyl-L-lysyl-L-leucyl-L-leucyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

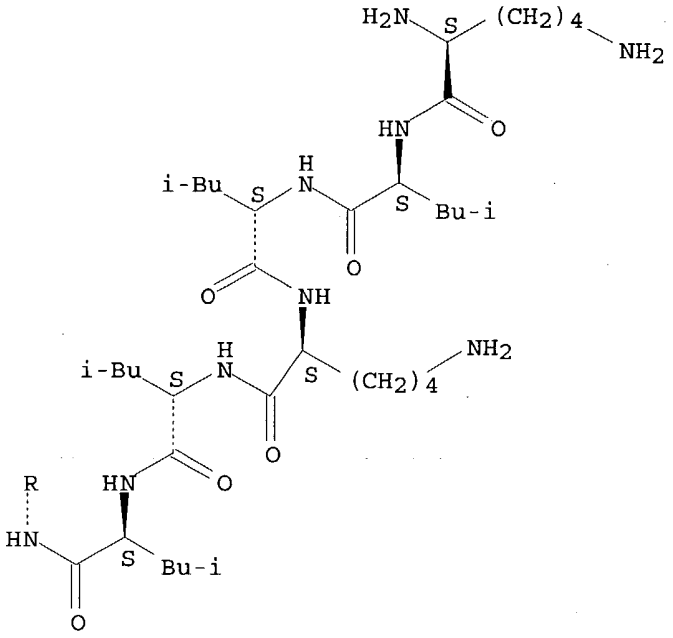
PAGE 1-A



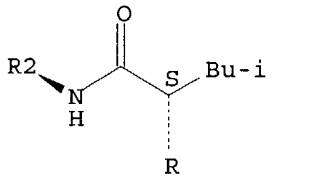
PAGE 2-A

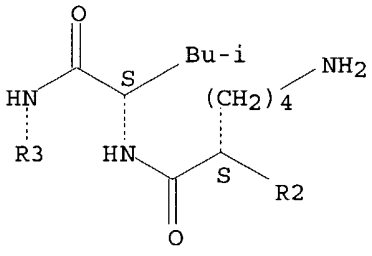


PAGE 3-A



PAGE 4-A





REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 15 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:241683 HCAPLUS
DOCUMENT NUMBER: 134:271256
TITLE: Methods of forming protein-linked lipidic microparticles, and compositions thereof
INVENTOR(S): Papahadjopoulos, Demetrios; Hong, Keelung; Zheng,

Weiwen; Kirpotin, Dmitri B.
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: U.S., 26 pp., Cont.-in-part of U.S. Ser. No. 967,791.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6210707	B1	20010403	US 1998-76618	19980512
US 6071533	A	20000606	US 1997-967791	19971110
CA 2330741	AA	19991118	CA 1999-2330741	19990511
WO 9958694	A1	19991118	WO 1999-US10375	19990511
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9939834	A1	19991129	AU 1999-39834	19990511
AU 770111	B2	20040212		
EP 1078079	A1	20010228	EP 1999-922950	19990511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002514432	T2	20020521	JP 2000-548485	19990511
US 6410049	B1	20020625	US 1999-420908	19991020
US 2002001612	A1	20020103	US 2001-765107	20010116
US 6528087	B2	20030304		
US 2002182249	A1	20021205	US 2002-121962	20020412
US 2003003143	A1	20030102	US 2002-177939	20020621
US 6803053	B2	20041012		
US 2004209366	A1	20041021	US 2004-847982	20040517

PRIORITY APPLN. INFO.:

US 1996-30578P	P	19961112
US 1997-967791	A2	19971110
US 1998-76618	A	19980512
WO 1999-US10375	W	19990511
US 1999-420908	A1	19991020
US 2001-765107	A1	20010116
US 2002-177939	A1	20020621

AB The present invention provides for lipid/nucleic acid complexes that have increased shelf life and high transfection activity in vivo following i.v. injection, and methods of preparing such complexes. The methods generally involve contacting a nucleic acid with an organic polycation to produce a condensed nucleic acid, and then combining the condensed nucleic acid with a lipid comprising an **amphiphilic** cationic lipid to produce the lipid/nucleic acid complex. This complex can be further stabilized by the addition of a **hydrophilic** polymer attached to hydrophobic side chains. The complex can also be made specific for specific cells, by incorporating a targeting moiety such as an Fab' fragment attached to a **hydrophilic** polymer. The present invention further relates to lipidic microparticles with attached proteins which have been first conjugated to linker mols. having a **hydrophilic** polymer domain and a hydrophobic domain capable of stable association with the microparticle, or proteins which have been engineered to contain a **hydrophilic** domain and a lipid moiety permitting stable association with the

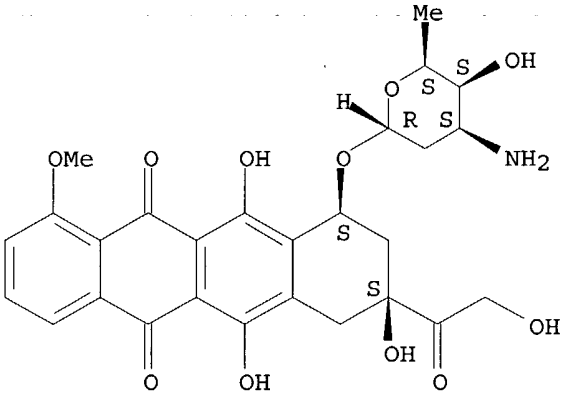
microparticle. For example, maleimido-propionylantido-PEG-distearoylphosphatidylethanolamine (Mal-PEG-DSPE) was prepared, conjugated with a single chain Fv antibody reactive against HER2 oncoprotein, and formulated into **immunoliposomes** for targeting of HER2-overexpressing human breast cancer cells.

IT **23214-92-8**, Doxorubicin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(preparation of protein-linked lipidic microparticles for targeting of nucleic acids)

RN 23214-92-8 HCAPLUS

CN 5,12-Naphthacenedione, 10-[(3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S,10S)- (9CI) (CA INDEX NAME)

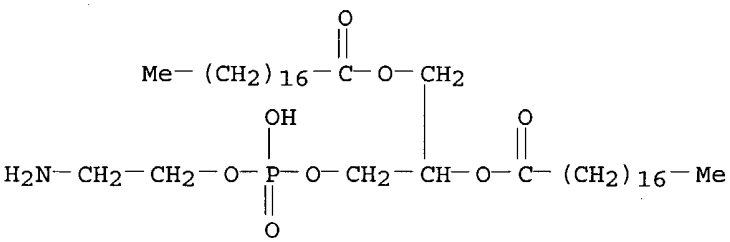
Absolute stereochemistry.



IT **4537-76-2**, Distearoylphosphatidylethanolamine **207308-06-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of protein-linked lipidic microparticles for targeting of nucleic acids)

RN 4537-76-2 HCAPLUS

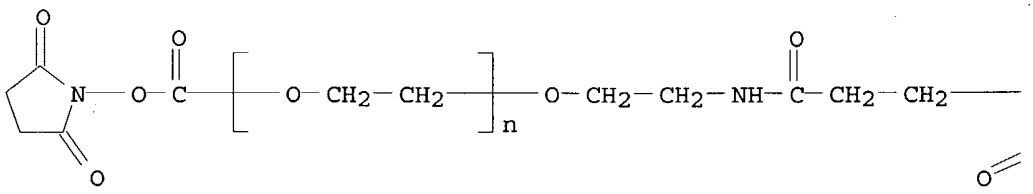
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



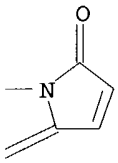
RN 207308-06-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]-ω-[2-[[3-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1-oxopropyl]amino]ethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A

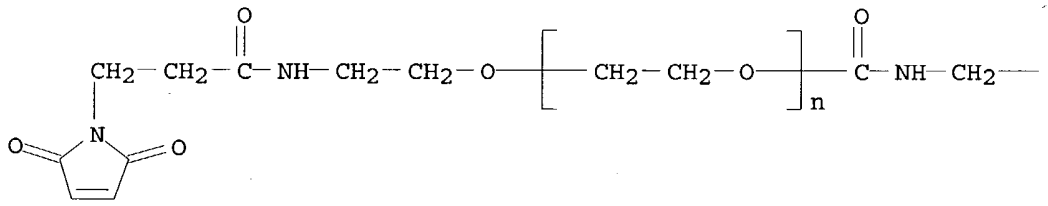


PAGE 1-B

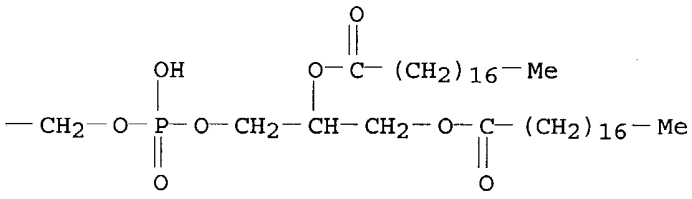


IT **207403-10-9P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of protein-linked lipidic microparticles for targeting of nucleic acids)
RN 207403-10-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[6-hydroxy-6-oxido-1,12-dioxo-9-[(1-oxooctadecyl)oxy]-5,7,11-trioxa-2-aza-6-phosphanonacos-1-yl]-ω-[2-[[3-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1-oxopropyl]amino]ethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

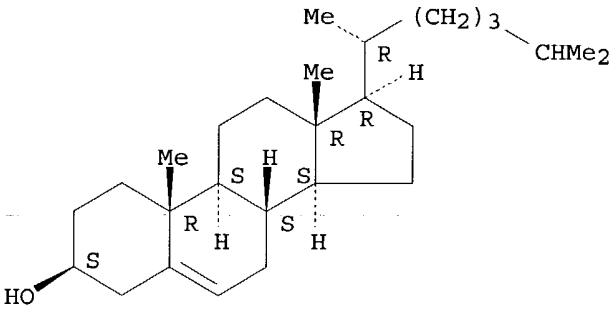


IT **57-88-5**, **Cholesterol**, biological studies
2462-63-7, DOPE **2591-17-5**, D-Luciferin **3700-67-2**
, Dimethyldioctadecylammonium bromide **26662-91-9**,
1-Palmitoyl-2-oleoyl-phosphatidylcholine **124050-77-7**, DOGS

127512-29-2, DODAP **137056-72-5**, DC-chol
144189-73-1, DOTAP **178744-28-0 216165-62-7**
321975-96-6 331942-29-1
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(preparation of protein-linked lipidic microparticles for targeting of nucleic acids)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

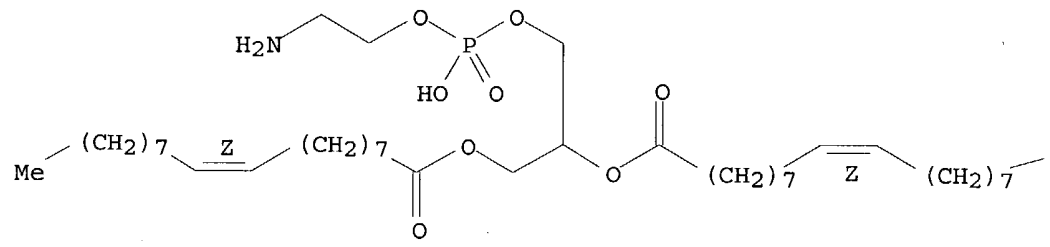
Absolute stereochemistry.



RN 2462-63-7 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A

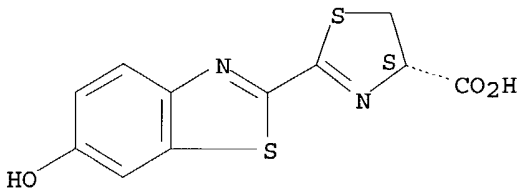


PAGE 1-B

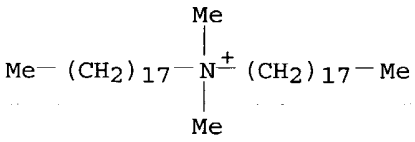
Me

RN 2591-17-5 HCAPLUS
CN 4-Thiazolecarboxylic acid, 4,5-dihydro-2-(6-hydroxy-2-benzothiazolyl)-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

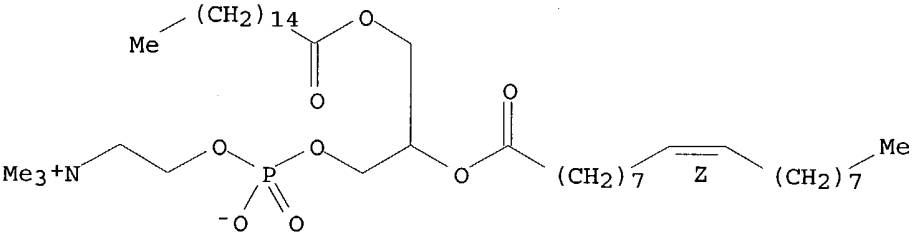


RN 3700-67-2 HCAPLUS
CN 1-Octadecanaminium, N,N-dimethyl-N-octadecyl-, bromide (9CI) (CA INDEX NAME)



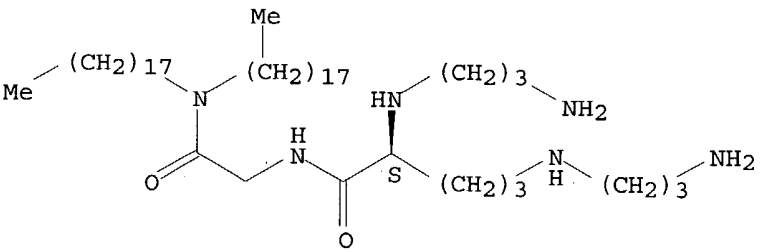
RN 26662-91-9 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 124050-77-7 HCAPLUS
CN Glycinamide, N2,N5-bis(3-aminopropyl)-L-ornithyl-N,N-dioctadecyl- (9CI) (CA INDEX NAME)

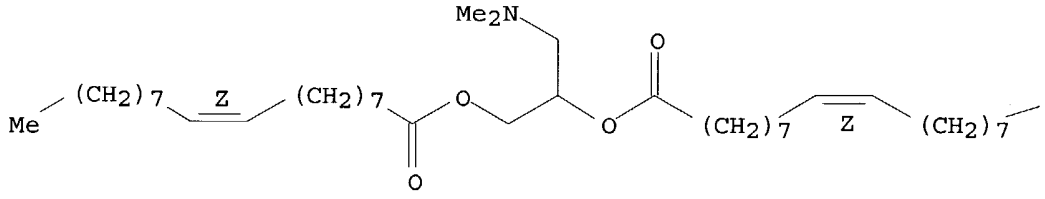
Absolute stereochemistry.



RN 127512-29-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 1-[(dimethylamino)methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A

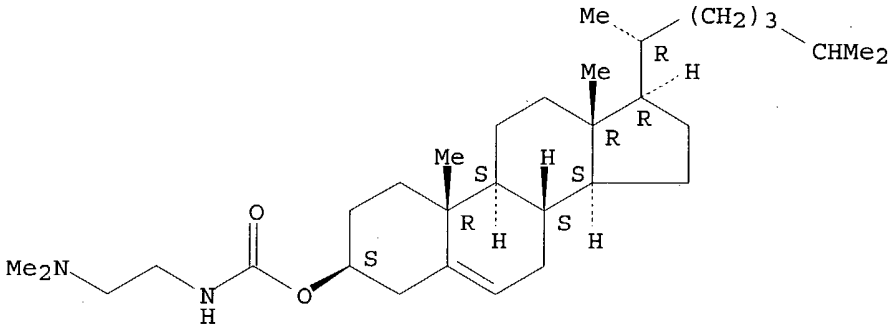


PAGE 1-B

Me

RN 137056-72-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, [2-(dimethylamino)ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



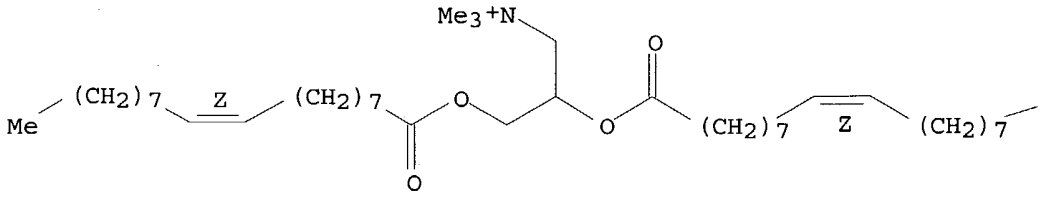
RN 144189-73-1 HCAPLUS
CN 1-Propanaminium, N,N,N-trimethyl-2,3-bis[[(9Z)-1-oxo-9-octadecenyl]oxy]-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 113669-21-9
CMF C42 H80 N O4

Double bond geometry as shown.

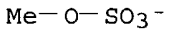
PAGE 1-A



PAGE 1-B

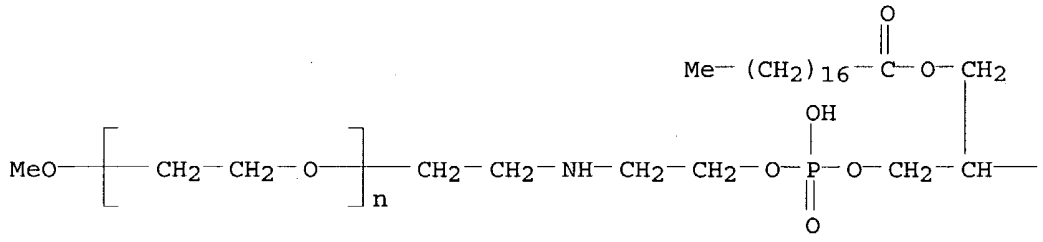
CM 2

CRN 21228-90-0
CMF C H3 O4 S

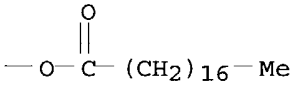


RN 178744-28-0 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[7-hydroxy-7-oxido-13-oxo-10-[(1-oxooctadecyl)oxy]-6,8,12-trioxa-3-aza-7-phosphatriacont-1-yl]-ω-methoxy- (9CI) (CA INDEX NAME)

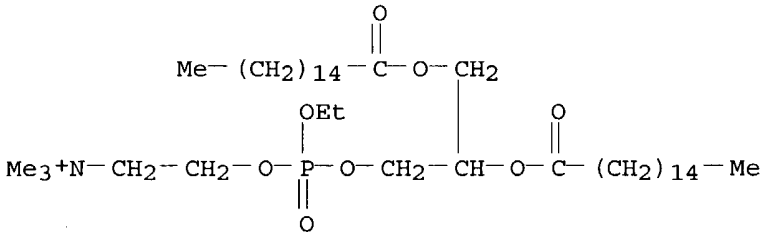
PAGE 1-A



PAGE 1-B

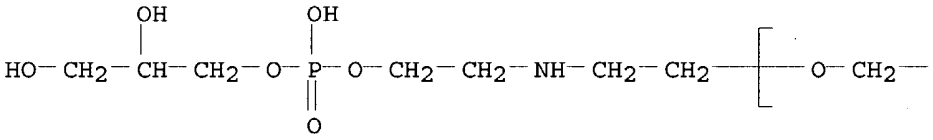


RN 216165-62-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-ethoxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, 4-oxide (9CI) (CA INDEX NAME)

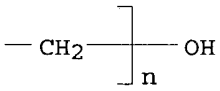


RN 321975-96-6 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(7,10,11-trihydroxy-7-oxido-6,8-dioxa-3-aza-7-phosphaundec-1-yl)-ω-hydroxy- (9CI) (CA INDEX NAME)

PAGE 1-A

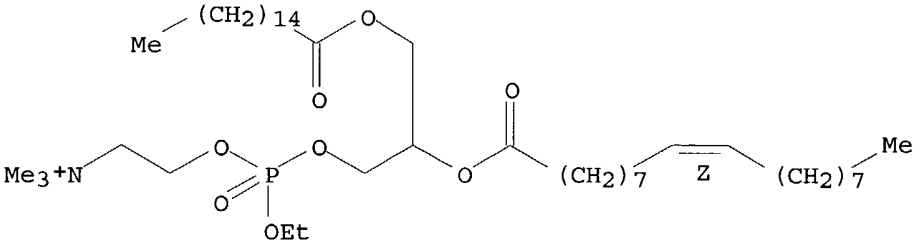


PAGE 1-B



RN 331942-29-1 HCAPLUS
CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-ethoxy-N,N,N-trimethyl-9-oxo-7-[[(1-oxohexadecyl)oxy]methyl]-, 4-oxide, (17Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 16 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:63802 HCAPLUS
DOCUMENT NUMBER: 134:136683
TITLE: **Vinyl ether lipids** with **cleavable hydrophilic** headgroups
INVENTOR(S): Thompson, David H.; Boomer, Jeremy A.; Haynes, Robert
PATENT ASSIGNEE(S): Purdue Research Foundation, USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001005375	A1	20010125	WO 2000-US19430	20000717
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1202714	A1	20020508	EP 2000-947445	20000717
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.:

US 1999-144301P	P	19990716
US 1999-146552P	P	19990730
WO 2000-US19430	W	20000717

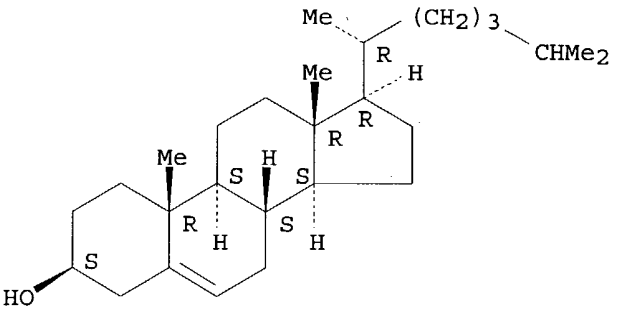
OTHER SOURCE(S): MARPAT 134:136683

AB A novel **amphiphilic** lipid compound having a **cleavable**, **vinyl ether** linked **hydrophilic** headgroup is described. Also described are **liposomes** containing the **vinyl ether lipid** compound, which may be triggered to release their contents and/or permeabilize or fuse with target lipid membranes. The **cleavable vinyl ether** linkage allows the **hydrophilic** headgroup to be dissociated from the **hydrophobic** tail group(s) of the lipid compound to facilitate phase transitions in the lipid bilayer. Thus, 4-O-cholesteryl-(3Z-buten-1yl)-polyethylene glycolate (I) was prepared by the reaction of cholestoxy-3Z-buten-1-ol with M-PEG-acid. Pharmaceutical **liposomes** comprising 1,2-dioleoyl-sn-glycerophosphoethanolamine:I (98:2) and calcein were prepared Calcein release at pH = 4.5 and 7.4 in the presence and absence of of egg phosphatidylcholine was studied.

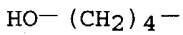
IT **57-88-5**, **Cholesterol**, reactions **110-63-4**, 1,4 Butanediol, reactions **814-49-3**, Chlorodiethylphosphate **4004-05-1 18162-48-6**, tert-Butyldimethylsilyl chloride **22323-82-6 67665-18-3 87184-99-4** **259738-67-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(**vinyl ether lipids** with **cleavable hydrophilic** headgroups)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

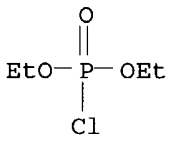
Absolute stereochemistry.



RN 110-63-4 HCAPLUS
CN 1,4-Butanediol (8CI, 9CI) (CA INDEX NAME)



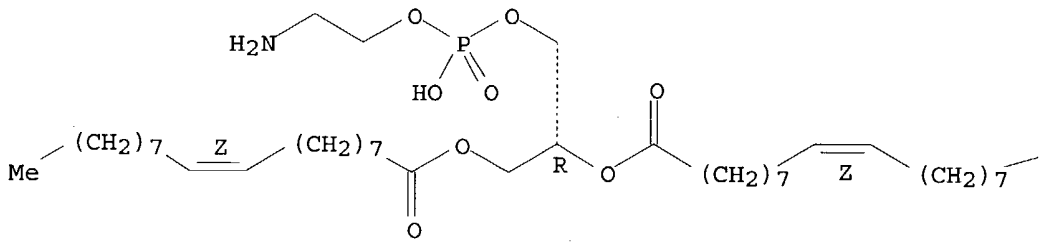
RN 814-49-3 HCAPLUS
CN Phosphorochloridic acid, diethyl ester (8CI, 9CI) (CA INDEX NAME)



RN 4004-05-1 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, (1R)-1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

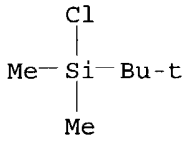
Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



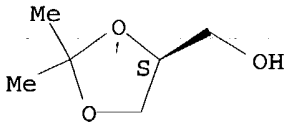
PAGE 1-B

RN 18162-48-6 HCAPLUS
CN Silane, chloro(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

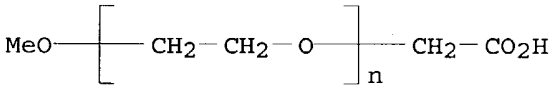


RN 22323-82-6 HCAPLUS
CN 1,3-Dioxolane-4-methanol, 2,2-dimethyl-, (4S)- (9CI) (CA INDEX NAME)

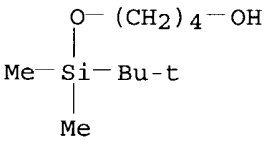
Absolute stereochemistry. Rotation (+).



RN 67665-18-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-methoxy- (9CI) (CA INDEX NAME)

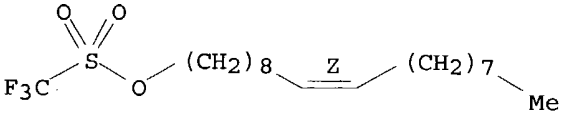


RN 87184-99-4 HCAPLUS
CN 1-Butanol, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)



RN 259738-67-5 HCAPLUS
CN Methanesulfonic acid, trifluoro-, (9Z)-9-octadecenyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

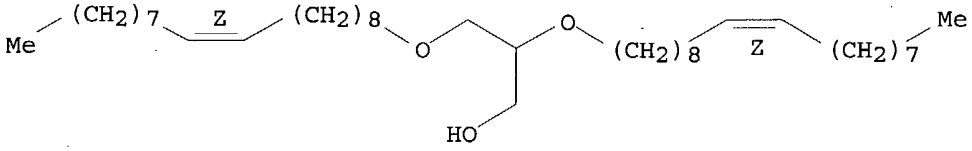


IT **6076-41-1P 69171-62-6P 85951-08-2P 99605-29-5P 321674-31-1P 321674-32-2P**

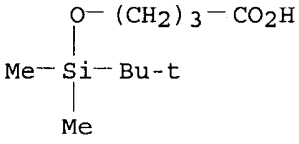
321674-33-3P 321674-34-4P 321674-36-6P
321674-37-7P 321674-38-8P 321674-39-9P
321674-40-2P 321674-42-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**vinyl ether lipids** with **cleavable hydrophilic** headgroups)

RN 6076-41-1 HCAPLUS
CN 1-Propanol, 2,3-bis[(9Z)-9-octadecenyloxy]- (9CI) (CA INDEX NAME)

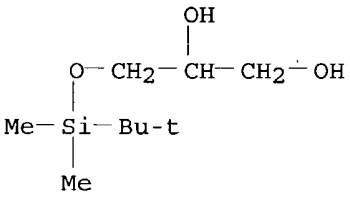
Double bond geometry as shown.



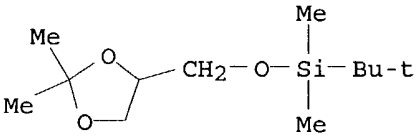
RN 69171-62-6 HCAPLUS
CN Butanoic acid, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)



RN 85951-08-2 HCAPLUS
CN 1,2-Propanediol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)

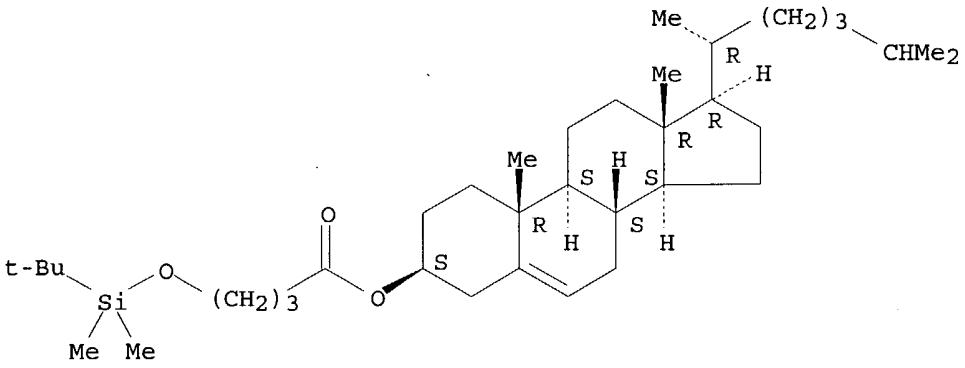


RN 99605-29-5 HCAPLUS
CN Silane, [(2,2-dimethyl-1,3-dioxolan-4-yl)methoxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



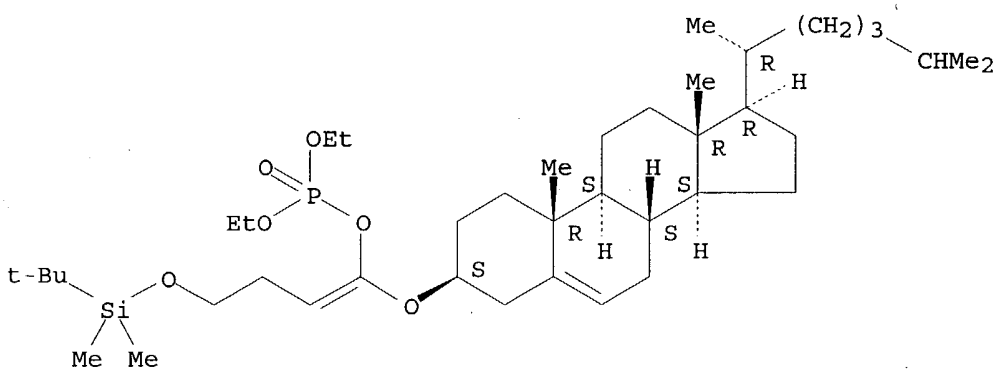
RN 321674-31-1 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]butanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



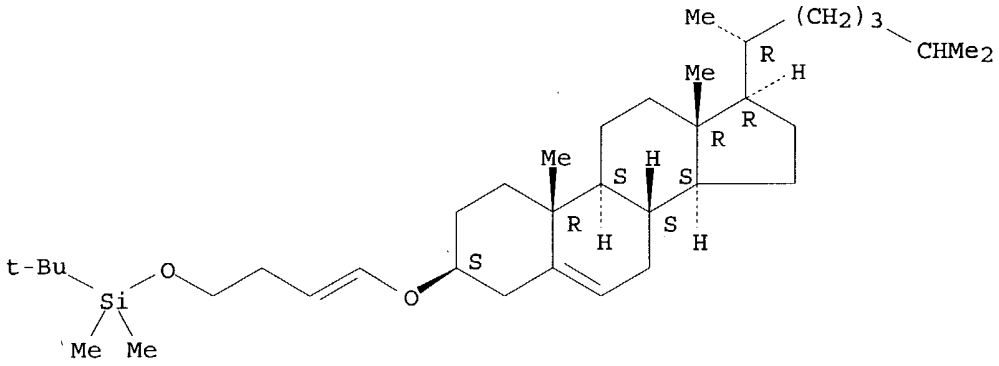
RN 321674-32-2 HCAPLUS
CN Phosphoric acid, 1-[(3β)-cholest-5-en-3-yloxy]-4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-1-butenyl diethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



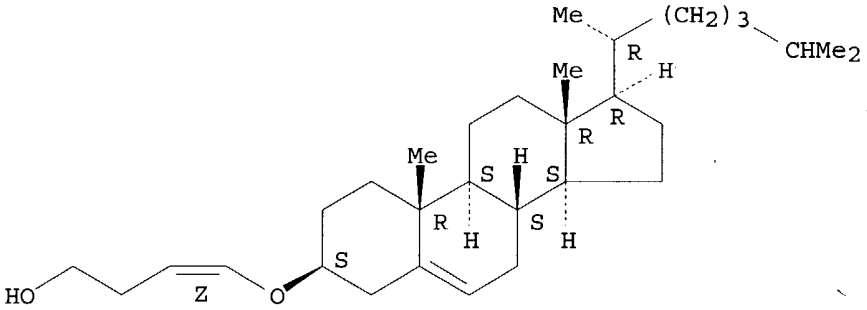
RN 321674-33-3 HCAPLUS
CN Silane, [[4-[(3β)-cholest-5-en-3-yloxy]-3-butenyl]oxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



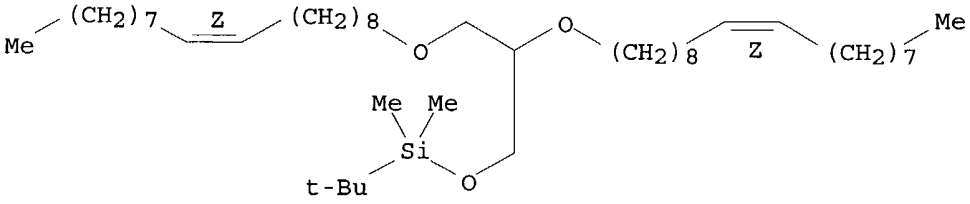
RN 321674-34-4 HCAPLUS
CN 3-Buten-1-ol, 4-[(3β)-cholest-5-en-3-yloxy]-, (3Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



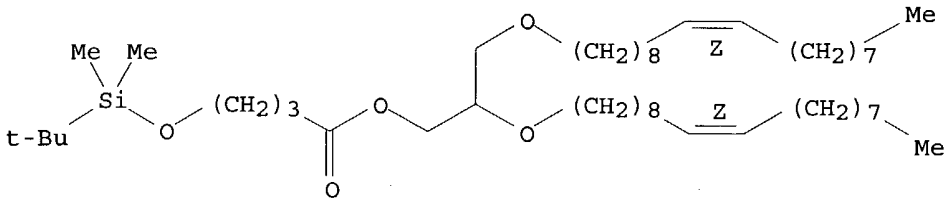
RN 321674-36-6 HCAPLUS
CN Silane, [2,3-bis[(9Z)-9-octadecenyloxy]propoxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



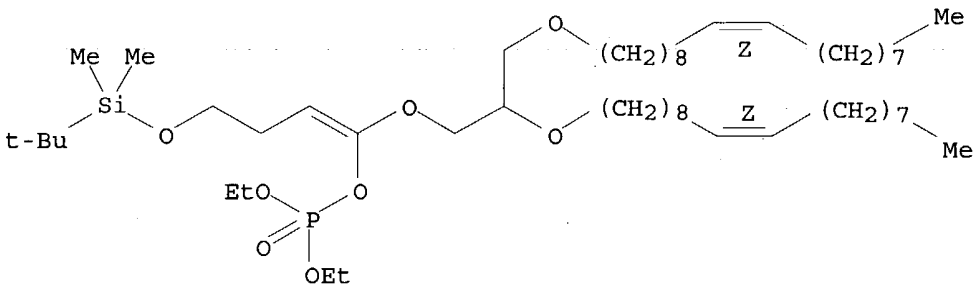
RN 321674-37-7 HCAPLUS
CN Butanoic acid, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, 2,3-bis[(9Z)-9-octadecenyloxy]propyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



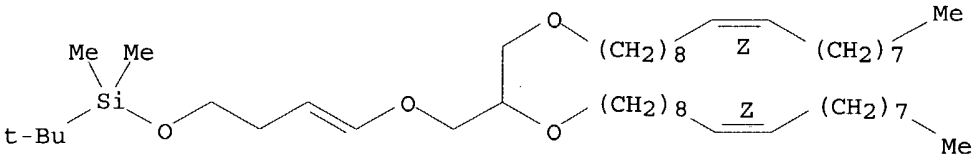
RN 321674-38-8 HCAPLUS
CN Phosphoric acid, 1-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-1-butenyl diethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



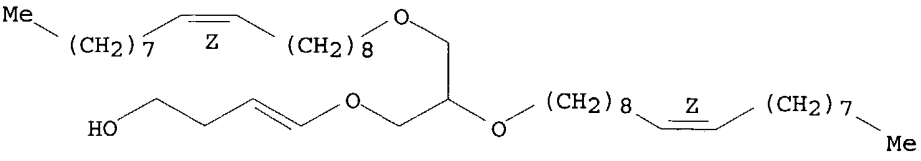
RN 321674-39-9 HCAPLUS
CN 4,9,13-Trioxa-3-silahentriaconta-7,22-diene, 2,2,3,3-tetramethyl-11-[(9Z)-9-octadecenyloxy]-, (22Z)- (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



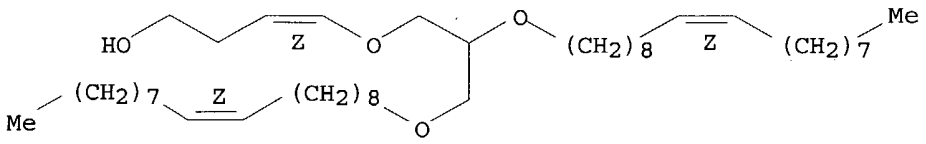
RN 321674-40-2 HCAPLUS
CN 3-Buten-1-ol, 4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



RN 321674-42-4 HCAPLUS
CN 3-Buten-1-ol, 4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-, (3Z)- (9CI) (CA INDEX NAME)

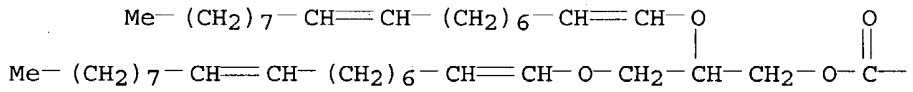
Double bond geometry as shown.



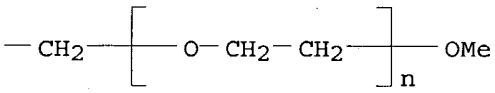
IT **237056-02-9P 321674-35-5P 321674-41-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(**vinyl ether lipids** with **cleavable hydrophilic** headgroups)

RN 237056-02-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(2R)-2,3-bis[(1Z,9Z)-1,9-octadecadienyloxy]propoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A

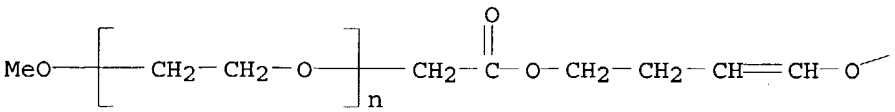


PAGE 1-B

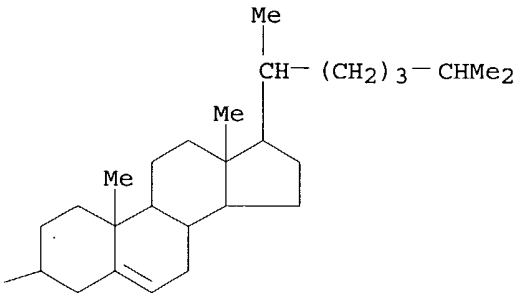


RN 321674-35-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(3Z)-4-[(3β)-cholest-5-en-3-yloxy]butoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A

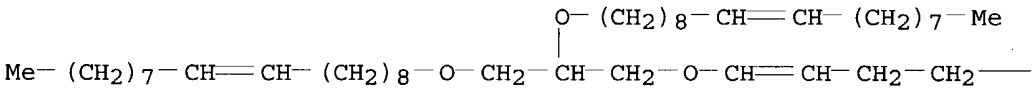


PAGE 1-B

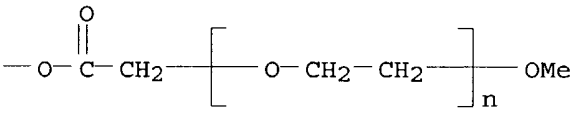


RN 321674-41-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[(3Z)-4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-3-butenyl]oxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

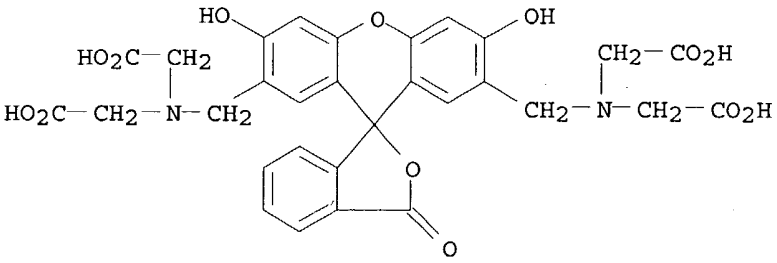
PAGE 1-A



PAGE 1-B



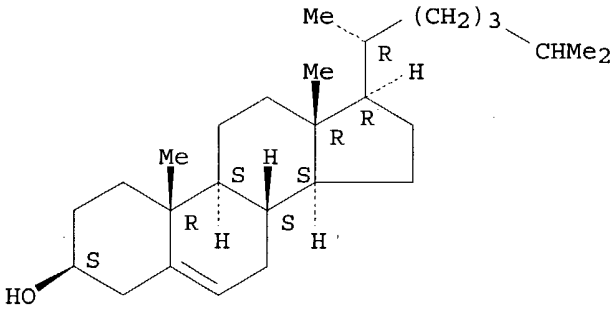
IT **1461-15-0**, Calcein
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**vinyl ether lipids** with **cleavable hydrophilic** headgroups)
RN 1461-15-0 HCAPLUS
CN Glycine, N,N'-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-2',7'-diyl)bis(methylene)]bis[N-(carboxymethyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 17 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:672064 HCAPLUS
DOCUMENT NUMBER: 134:271162
TITLE: Polymeric **vesicle** prepared from poly-L-lysine modified **amphiphilic** graft copolymer
AUTHOR(S): Wang, W.; Tetley, L.; Uchegbu, I. F.
CORPORATE SOURCE: Department of Pharmaceutical Sciences, Strathclyde Institute for Biomedical Sciences, University of Strathclyde, Glasgow, G4 0NR, UK
SOURCE: Proceedings of the International Symposium on Controlled Release of Bioactive Materials (2000), 27th, 367-368
CODEN: PCRMEY; ISSN: 1022-0178
PUBLISHER: Controlled Release Society, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Polymer unilamellar **vesicles** are produced from a polylysine based graft copolymer with a defined level of hydrophobic and **hydrophilic** modification. The size of these **vesicles** may be controlled by controlling the initial mol. weight of the polylysine parent and the **vesicle** encapsulation efficiency for a **hydrophilic** macromol. could be increased by maintaining a high level of unreacted lysine units in this polymer.
IT **57-88-5**, **Cholesterol**, processes **127829-97-4**, Solulan C 24
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polymeric **vesicle** prepared from poly-L-lysine modified **amphiphilic** graft copolymer)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

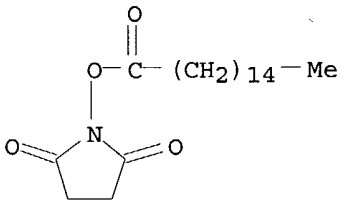
Absolute stereochemistry.



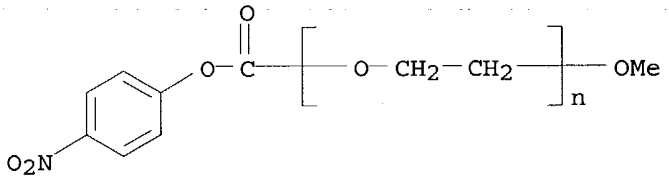
RN 127829-97-4 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(9Z)-1-oxo-9-octadecenyl]-ω-hydroxy-, mixt. with ethoxylated C16-18-alcs. (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **14464-31-4DP**, reaction products with polylysine and PEG derivative **124661-64-9DP**, reaction products with polylysine and palmitic acid derivative **143073-46-5DP**, palmitamide derivs.
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(polymeric **vesicle** prepared from poly-L-lysine modified **amphiphilic** graft copolymer)

RN 14464-31-4 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(1-oxohexadecyl)oxy]- (9CI) (CA INDEX NAME)



RN 124661-64-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(4-nitrophenoxy)carbonyl]-ω-methoxy- (9CI) (CA INDEX NAME)



RN 143073-46-5 HCAPLUS
CN L-Lysine, polymer with oxirane, graft (9CI) (CA INDEX NAME)

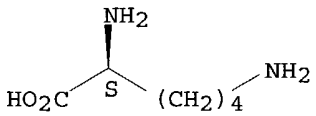
CM 1

CRN 75-21-8
CMF C2 H4 O

CM 2

CRN 56-87-1
CMF C6 H14 N2 O2

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

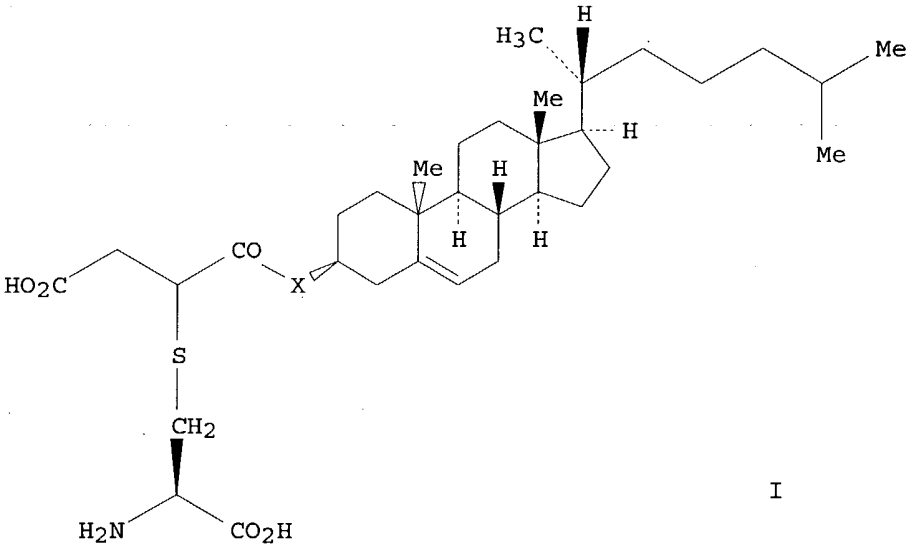
L18 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:26992 HCAPLUS
DOCUMENT NUMBER: 132:194548

TITLE: Synthesis of **cholesterol** derivatives with amino acid as **hydrophilic** group and the **vesicles** prepared therefrom

AUTHOR(S): Li, Zi Chen; Jin, Wei; Li, Fu Mian
CORPORATE SOURCE: College of Chemistry, Peking University, Beijing, 100871, Peop. Rep. China

SOURCE: Chinese Chemical Letters (1999), 10(12), 1007-1010
CODEN: CCLEE7; ISSN: 1001-8417
PUBLISHER: Chinese Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

GI

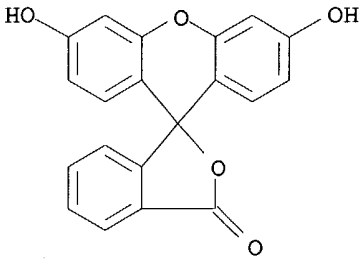


I

AB Three single chain **amphiphilic cholesterol** derivs. with amino acid as **hydrophilic** groups (I) [X = O, O(CH2)2O, O(CH2)4] were synthesized. When they were hydrated in water all formed lamellae structures as evidenced by DSC measurement. The lamellae states of I [X = O(CH2)2O, O(CH2)4O] can be converted to **vesicles** upon ultrasonication of the diluted aqueous solns. The **vesicles** showed very slow release rate of the encapsulated water-soluble dyes, indicating that they are stable and belong to the least permeable **vesicles.**

IT **72088-94-9**, 5(6)-Carboxyfluorescein
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(encapsulation by **vesicles** prepared from **cholesterol** derivs. with **hydrophilic** amino acid group by ultrasonication)

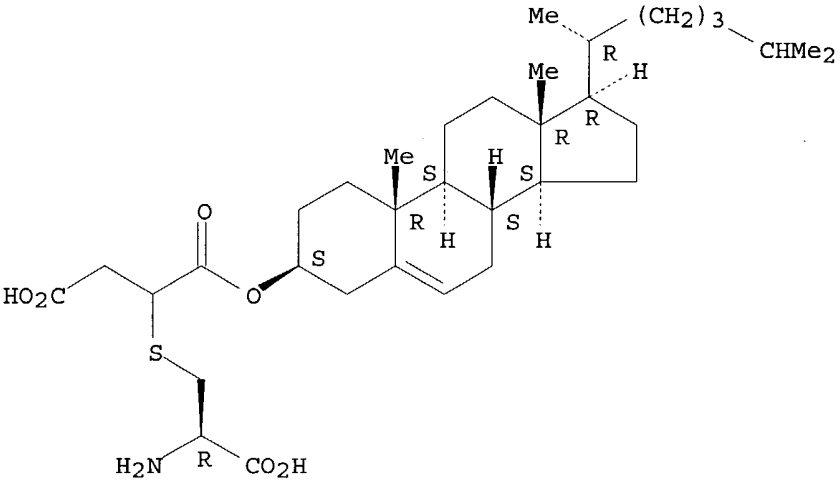
RN 72088-94-9 HCAPLUS
CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthene]-ar-carboxylic acid, 3',6'-dihydroxy-3-oxo- (9CI) (CA INDEX NAME)



D1—CO_2H

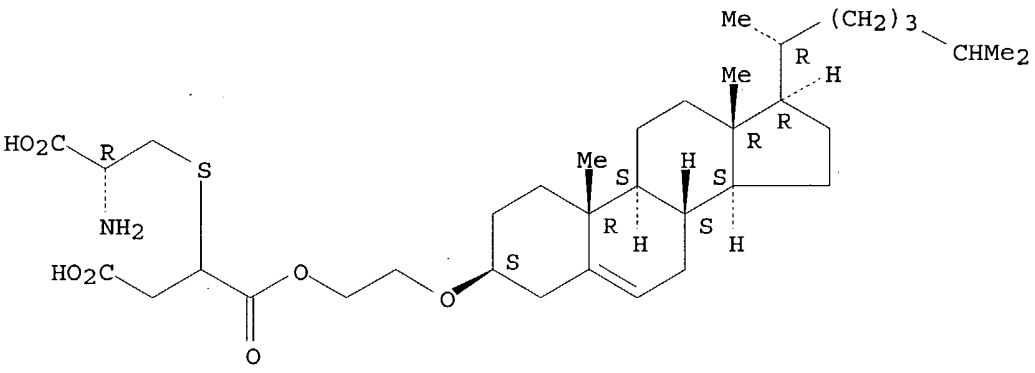
IT **260256-88-0P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis of **cholesterol** derivs. with amino acid as **hydrophilic** group and the **vesicles** prepared therefrom)
RN 260256-88-0 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 4-hydrogen 2-[[(2R)-2-amino-2-carboxyethyl]thio]butanedioate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **260256-89-1P 260256-90-4P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis of **cholesterol** derivs. with **hydrophilic** amino acid group and the **vesicles** prepared therefrom)
RN 260256-89-1 HCAPLUS
CN Butanedioic acid, [[(2R)-2-amino-2-carboxyethyl]thio]-, 1-[2-[(3β)-cholest-5-en-3-yloxy]ethyl] ester (9CI) (CA INDEX NAME)

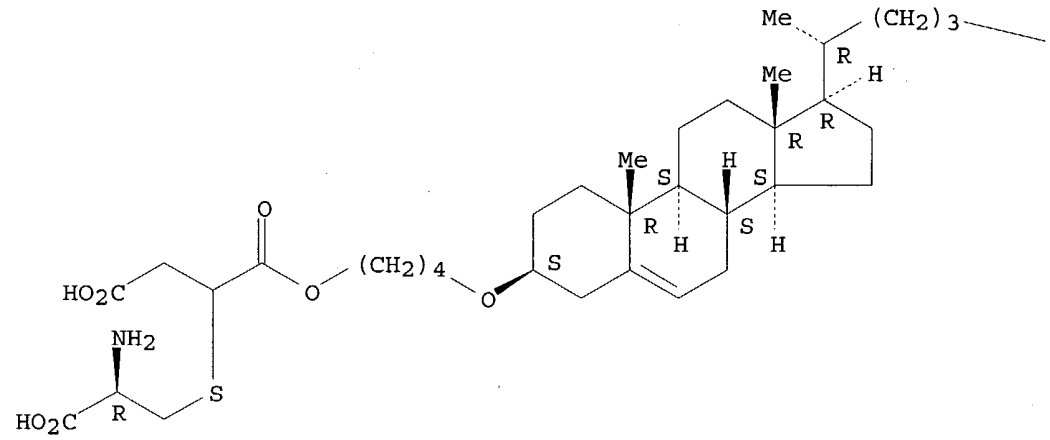
Absolute stereochemistry.



RN 260256-90-4 HCAPLUS
CN Butanedioic acid, [[(2R)-2-amino-2-carboxyethyl]thio]-, 1-[4-[(3β)-cholest-5-en-3-yloxy]butyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

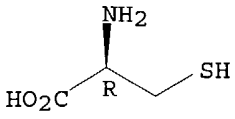


PAGE 1-B

CHMe2

IT **52-89-1**, Cysteine hydrochloride **57-88-5**, **Cholesterol**, reactions **108-31-6**, 2,5-Furandione, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of **cholesterol** derivs. with **hydrophilic** amino acid group and the **vesicles** prepared therefrom)
RN 52-89-1 HCAPLUS
CN L-Cysteine, hydrochloride (9CI) (CA INDEX NAME)

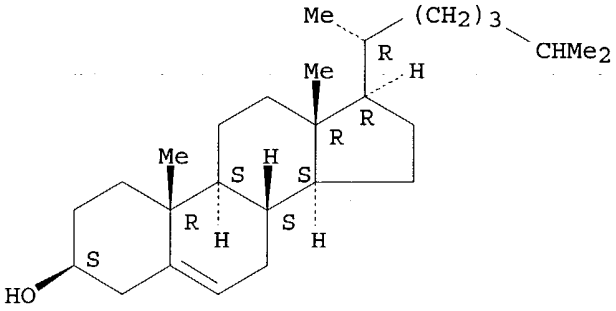
Absolute stereochemistry.



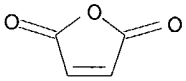
● HCl

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

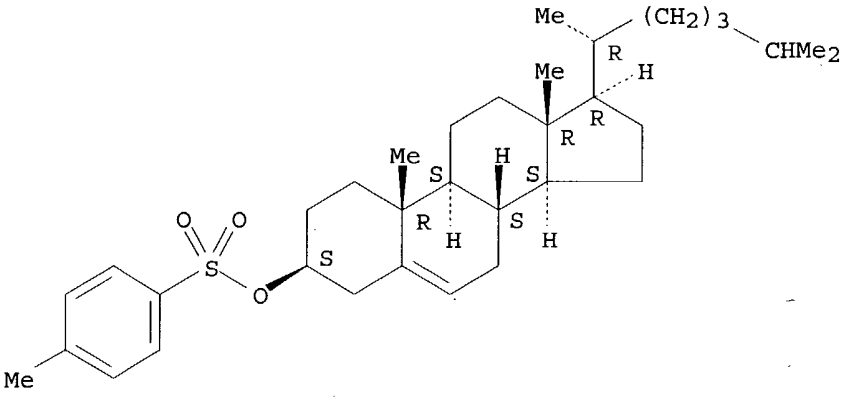


RN 108-31-6 HCAPLUS
CN 2,5-Furandione (9CI) (CA INDEX NAME)



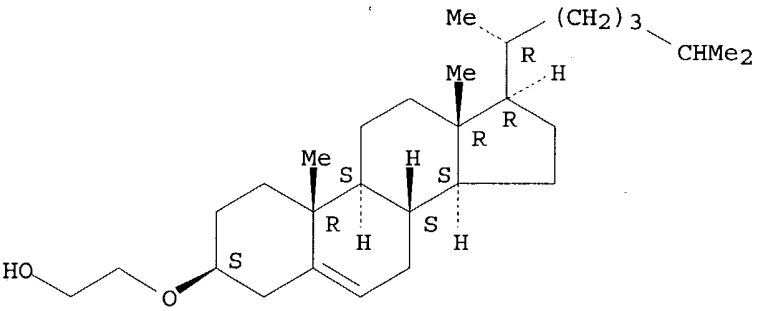
IT **1182-65-6P 30788-35-3P 260256-91-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of **cholesterol** derivs. with **hydrophilic** amino acid group and the **vesicles** prepared therefrom)
RN 1182-65-6 HCAPLUS
CN Cholest-5-en-3-ol (3β)-, 4-methylbenzenesulfonate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



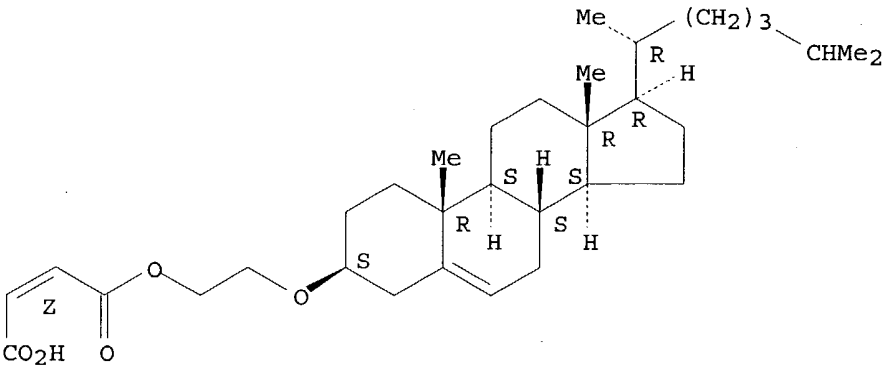
RN 30788-35-3 HCAPLUS
CN Ethanol, 2-[[(3β)-cholest-5-en-3-yl]oxy]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 260256-91-5 HCAPLUS
CN 2-Butenedioic acid (2Z)-, mono[2-[(3β)-cholest-5-en-3-yloxy]ethyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:736953 HCAPLUS
DOCUMENT NUMBER: 131:333010
TITLE: Preparation of protein-linked lipidic microparticles with improved shelf-life using polycation-induced condensation
INVENTOR(S): Papahadjopoulos, Demetrios; Hong, Keelung; Zheng, Weiwen; Kirpotin, Dmitri
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9958694	A1	19991118	WO 1999-US10375	19990511
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6210707	B1	20010403	US 1998-76618	19980512
CA 2330741	AA	19991118	CA 1999-2330741	19990511
AU 9939834	A1	19991129	AU 1999-39834	19990511
AU 770111	B2	20040212		
EP 1078079	A1	20010228	EP 1999-922950	19990511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002514432	T2	20020521	JP 2000-548485	19990511

PRIORITY APPLN. INFO.:

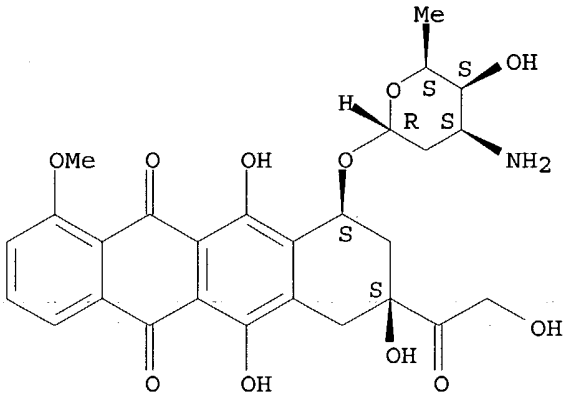
US 1998-76618	A	19980512
US 1996-30578P	P	19961112
US 1997-967791	A2	19971110
WO 1999-US10375	W	19990511

AB The present invention provides for lipid:nucleic acid complexes that have increased shelf life and high transfection activity in vivo following i.v. injection, and methods of preparing such complexes. The methods generally involve contacting a nucleic acid with an organic polycation to produce a condensed nucleic acid, and then combining the condensed nucleic acid with a lipid comprising an **amphiphilic** cationic lipid to produce the lipid:nucleic acid complex. This complex can be further stabilized by the addition of a **hydrophilic** polymer attached to hydrophobic side chains. The complex can also be made specific for specific cells by incorporating a targeting moiety such as a Fab' fragment attached to a **hydrophilic** polymer. The present invention further relates to lipidic microparticles with attached proteins which have been first conjugated to linker mols. having a **hydrophilic** polymer domain and a hydrophobic domain capable of stable association with the microparticle, or proteins which have been engineered to contain a **hydrophilic** domain and a lipid moiety permitting stable association with the microparticle.

IT **23214-92-8**, Doxil
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(delivery of; preparation of protein-linked lipidic microparticles with

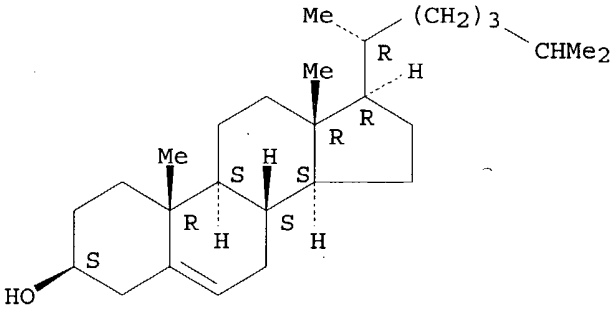
improved shelf-life using polycation-induced condensation)
RN 23214-92-8 HCAPLUS
CN 5,12-Naphthacenedione, 10-[(3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S,10S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

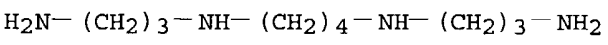


IT **57-88-5**, **Cholesterol**, biological studies **71-44-3**, Spermine **124-20-9**, Spermidine **2390-68-3**, DDAB **4537-76-2D**, Distearoylphosphatidylethanolamine, conjugates with polyethylene glycol-amphipathic lipid **9005-64-5D**, conjugates with polyethylene glycol-amphipathic lipid **25322-68-3D**, Polyethylene glycol, reaction products with amphipathic lipid and antibody fragments **37758-47-7D**, Ganglioside GM1, conjugates with polyethylene glycol-amphipathic lipid
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(preparation of protein-linked lipidic microparticles with improved shelf-life using polycation-induced condensation)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

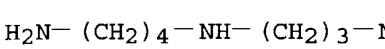
Absolute stereochemistry.



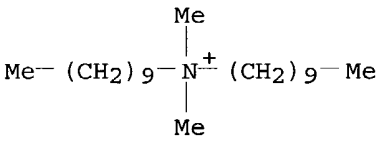
RN 71-44-3 HCAPLUS
CN 1,4-Butanediamine, N,N'-bis(3-aminopropyl)- (8CI, 9CI) (CA INDEX NAME)



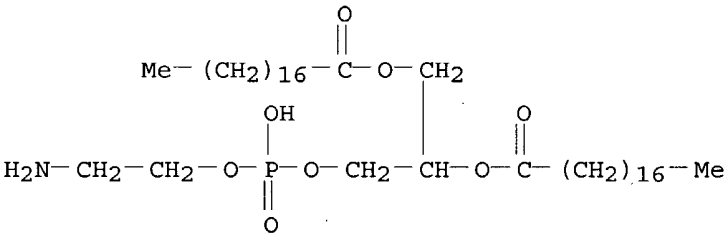
RN 124-20-9 HCAPLUS
CN 1,4-Butanediamine, N-(3-aminopropyl)- (8CI, 9CI) (CA INDEX NAME)



RN 2390-68-3 HCAPLUS
CN 1-Decanaminium, N-decyl-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)

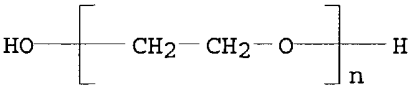


RN 4537-76-2 HCAPLUS
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 9005-64-5 HCAPLUS
CN Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs. (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



RN 37758-47-7 HCAPLUS
CN Ganglioside GM1 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 20 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:317194 HCAPLUS
DOCUMENT NUMBER: 130:343017
TITLE: Method of inhibiting side effects of pharmaceutical compositions containing **amphiphilic** vehicles or drug carrier molecules
INVENTOR(S): Szebeni, Janos; Alving, Carl R.
PATENT ASSIGNEE(S): Walter Reed Army Institute of Research, USA
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

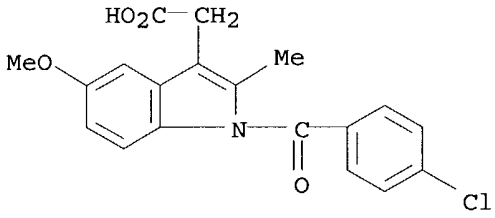
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9922759	A1	19990514	WO 1998-US23280		19981030
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
AU 9912978	A1	19990524	AU 1999-12978		19981030
EP 996461	A1	20000503	EP 1998-956455		19981030
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
US 2002136759	A1	20020926	US 1998-183375		19981030
PRIORITY APPLN. INFO.:			US 1997-63876P	P	19971031
			WO 1998-US23280	W	19981030

AB Toxicity and other unwanted effects caused by (a) solvents or emulsifiers for pharmaceuticals which contain **amphiphilic** mols. such as polyethoxylated oils or (b) drug vehicles containing **amphiphilic** mols. such as phospholipids are inhibited or prevented by use of a complement inhibitor such as soluble complement receptor type 1. Thus, Cremophor EL (polyethoxylated castor oil) and phospholipid **liposomes**, used in taxol formulations, caused significant complement activation in human serum by both classical and alternative pathways; this effect was potentiated by EtOH in the formulations. Injection of large multilamellar phosphatidylcholine-phosphatidylglycerol-**cholesterol liposomes** or **liposome**-encapsulated Hb into pigs induced pulmonary hypertension and a large increase in plasma level of TXB2 (the stable metabolite of TXA2); these effects were inhibited by murine anti-porcine complement C5a antibody GS1 (1.6 mg/kg), recombinant soluble complement receptor type 1 (0.2 or 2 mg/kg), or the cyclooxygenase inhibitor, indomethacin (5 mg/kg).

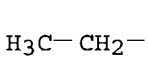
IT **80295-54-1**, Complement C5a
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antibodies to; method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 80295-54-1 HCAPLUS
CN Complement C5a (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **53-86-1**, Indomethacin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antihypertensive; method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 53-86-1 HCAPLUS
CN 1H-Indole-3-acetic acid, 1-(4-chlorobenzoyl)-5-methoxy-2-methyl- (9CI) (CA INDEX NAME)



IT **64-17-5**, Ethanol, biological studies
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(complement activation by Cremophor EL potentiation by; method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 64-17-5 HCAPLUS
CN Ethanol (9CI) (CA INDEX NAME)

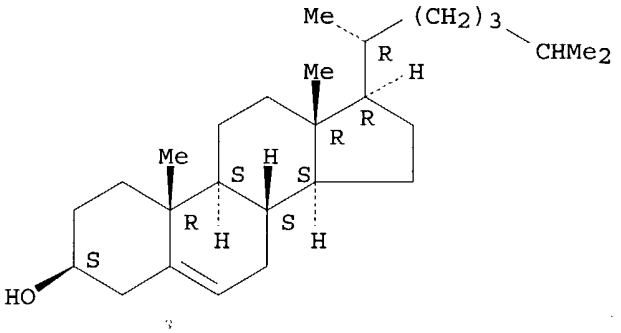


IT **37259-58-8**, Serine esterase **80295-33-6**, Complement C1q
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 37259-58-8 HCAPLUS
CN Proteinase, serine (9CI) (CA INDEX NAME)

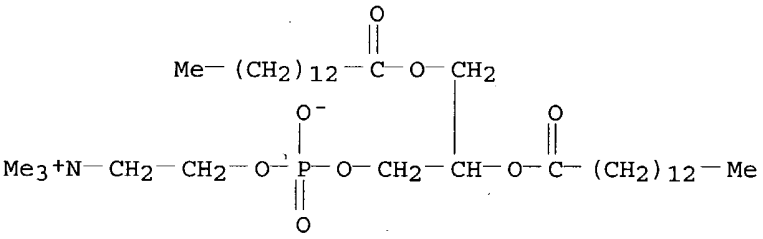
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 80295-33-6 HCAPLUS
CN Complement C1q (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **57-88-5**, Cholest-5-en-3-ol (3β)-, biological studies
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**liposomes** containing phospholipids and; method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

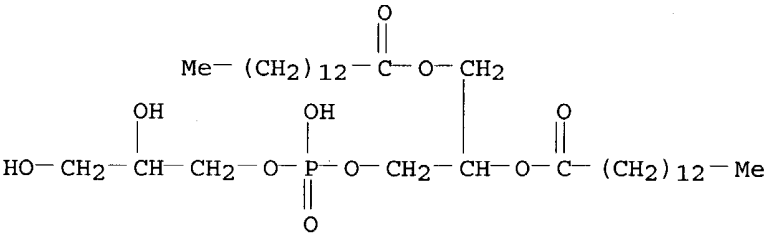
Absolute stereochemistry.



IT **18656-38-7 61361-72-6**, Dimyristoylphosphatidylglycerol
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**liposomes** containing; method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 18656-38-7 HCAPLUS
CN 3,5,9-Trioxa-4-phosphatricosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxotetradecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)

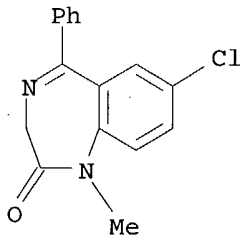


RN 61361-72-6 HCAPLUS
CN Tetradecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

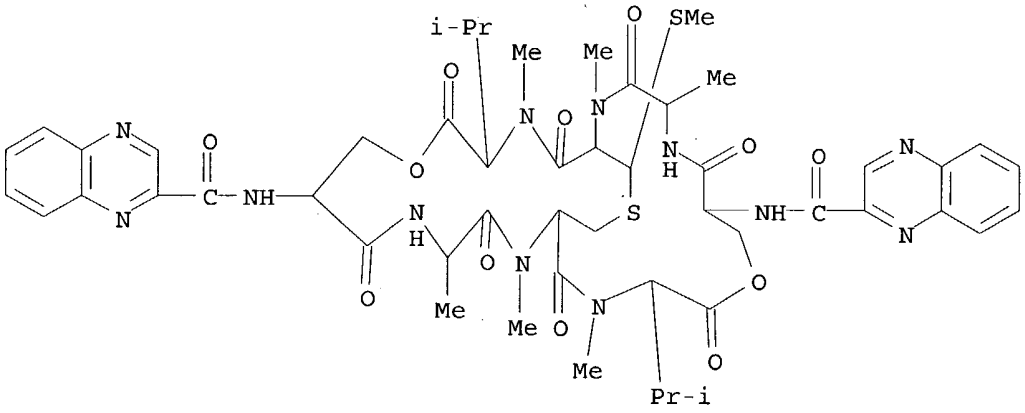


IT **39279-69-1**, Cremophor
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 39279-69-1 HCAPLUS
CN Cremophor (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **439-14-5**, Diazepam **512-64-1**, Echinomycin
1397-89-3, Amphotericin B **1421-14-3 8067-82-1**,
Althesin **20830-81-3**, Daunorubicin **23214-92-8**,
Doxorubicin **29767-20-2**, Teniposide **33069-62-4**, Taxol
59865-13-3, Cyclosporin A **69598-75-0**, Complestatin
71117-22-1, K-76COOH **80295-41-6D**, Complement C3, peptide
analogs of carboxy-terminal portion of **80295-65-4**, Complement
factor H **80295-66-5**, Complement factor I **97230-31-4**,
Didemnin E **99085-47-9**, Complement decay-accelerating factor
114977-28-5, Docetaxel
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 439-14-5 HCAPLUS
CN 2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-1-methyl-5-phenyl- (8CI, 9CI) (CA INDEX NAME)



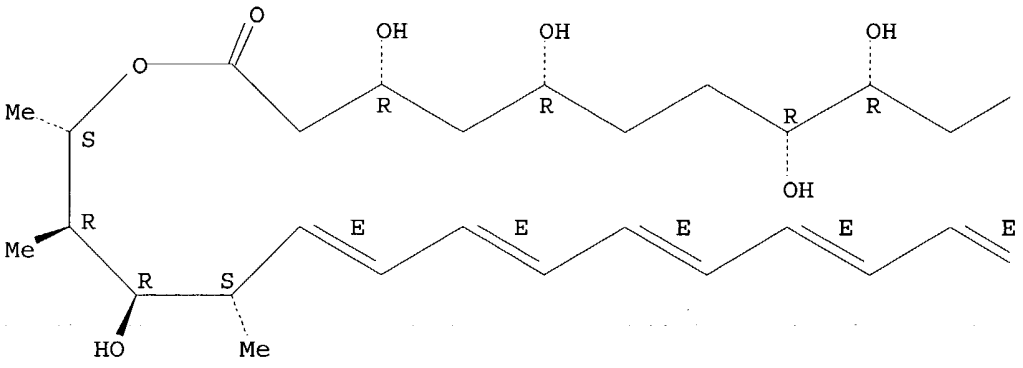
RN 512-64-1 HCAPLUS
CN Quinomycin A (7CI, 9CI) (CA INDEX NAME)



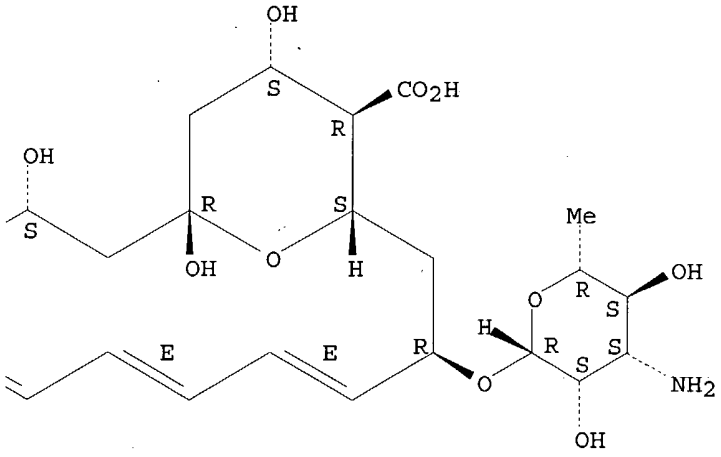
RN 1397-89-3 HCAPLUS
CN Amphotericin B (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

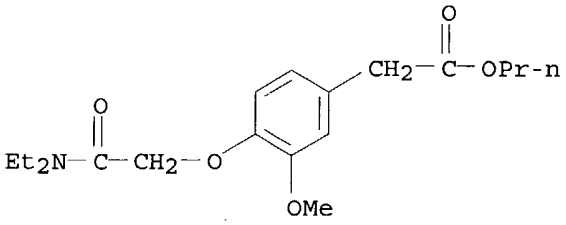
PAGE 1-A



PAGE 1-B



RN 1421-14-3 HCAPLUS
CN Benzeneacetic acid, 4-[2-(diethylamino)-2-oxoethoxy]-3-methoxy-, propyl ester (9CI) (CA INDEX NAME)

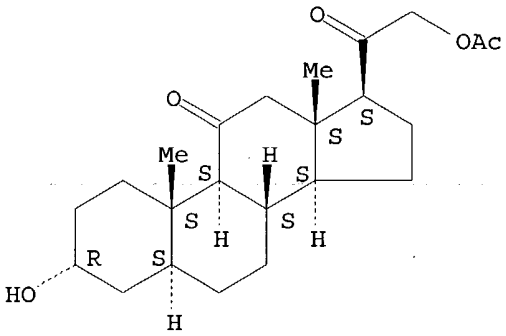


RN 8067-82-1 HCAPLUS
CN Pregnane-11,20-dione, 21-(acetyloxy)-3-hydroxy-, (3α,5α)-, mixt. with (3α,5α)-3-hydroxypregnane-11,20-dione (9CI) (CA INDEX NAME)

CM 1

CRN 23930-37-2
CMF C23 H34 O5

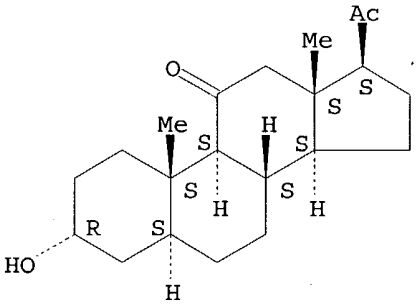
Absolute stereochemistry.



CM 2

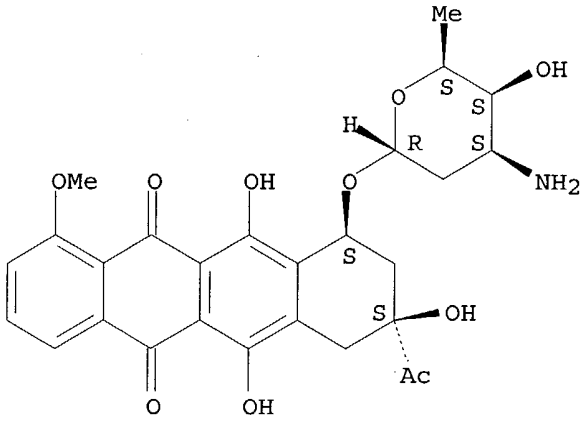
CRN 23930-19-0
CMF C21 H32 O3

Absolute stereochemistry.



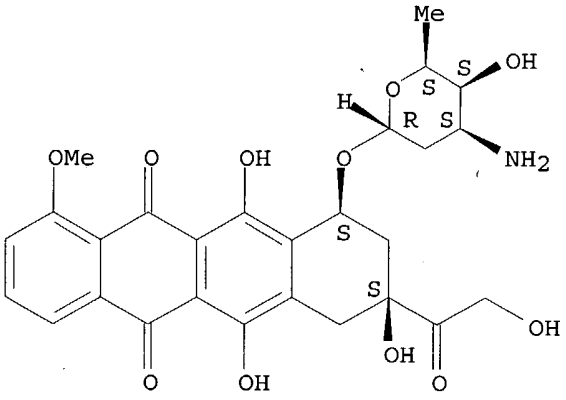
RN 20830-81-3 HCAPLUS
CN 5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S,10S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



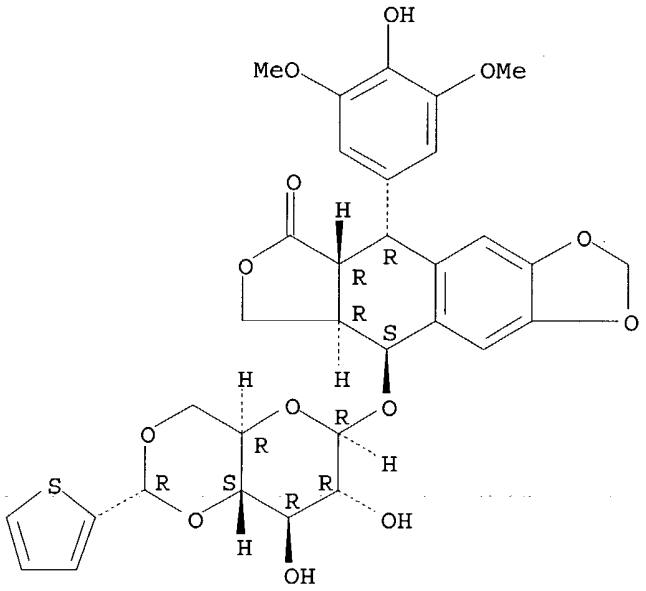
RN 23214-92-8 HCAPLUS
CN 5,12-Naphthacenedione, 10-[(3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S,10S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



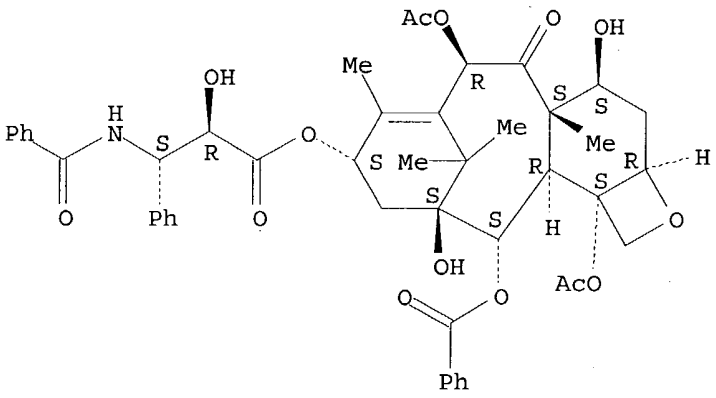
RN 29767-20-2 HCAPLUS
CN Furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one, 5,8,8a,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)-9-[[4,6-O-[(R)-2-thienylmethylene]-β-D-glucopyranosyl]oxy]-, (5R,5aR,8aR,9S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 33069-62-4 HCAPLUS
CN Benzenepropanoic acid, β-(benzoylamino)-α-hydroxy-, (2aR,4S,4aS,6R,9S,11S,12S,12aR,12bS)-6,12b-bis(acetyloxy)-12-(benzoyloxy)-2a,3,4,4a,5,6,9,10,11,12,12a,12b-dodecahydro-4,11-dihydroxy-4a,8,13,13-tetramethyl-5-oxo-7,11-methano-1H-cyclodeca[3,4]benz[1,2-b]oxet-9-yl ester, (αR,βS)- (9CI) (CA INDEX NAME)

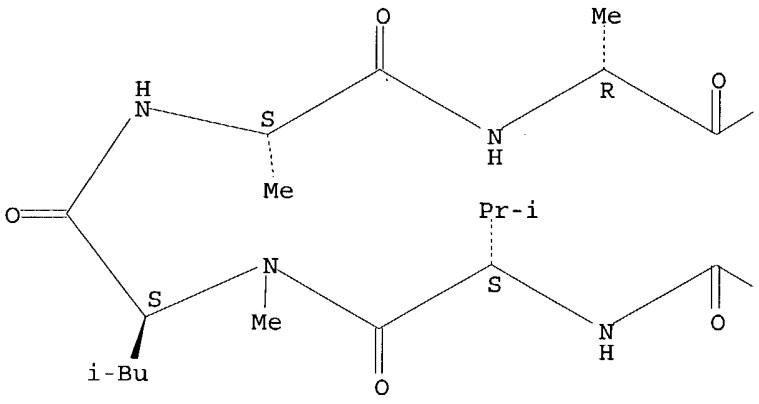
Absolute stereochemistry. Rotation (-).



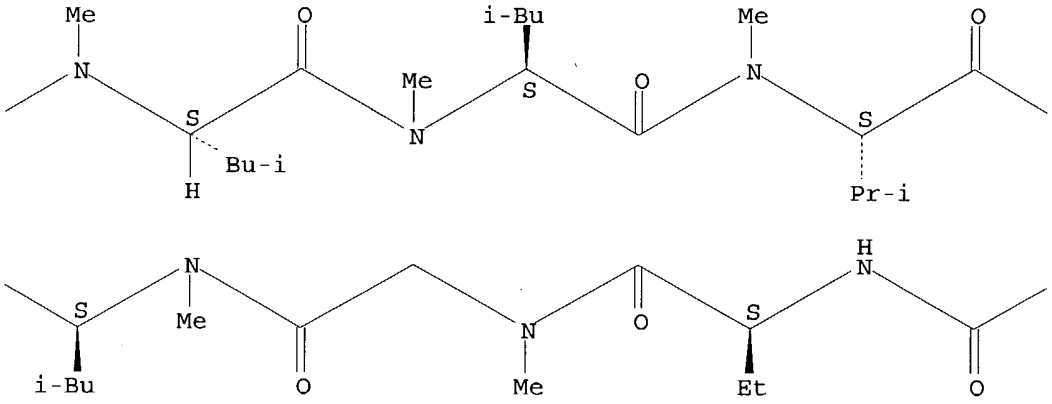
RN 59865-13-3 HCAPLUS
CN Cyclosporin A (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

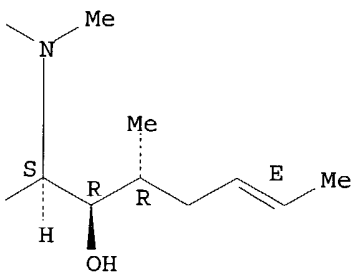
PAGE 1-A



PAGE 1-B



PAGE 1-C

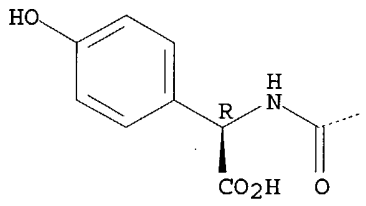


RN 69598-75-0 HCAPLUS

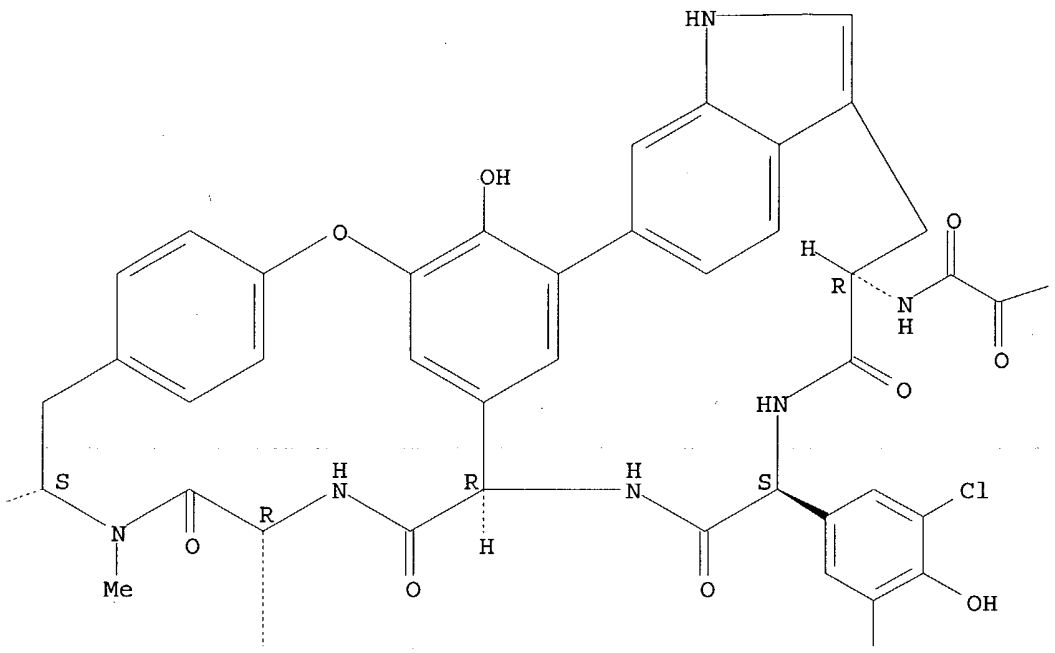
CN Benzeneacetic acid, α-[[[(5R,8R,10aR,13R,16S)-8,13-bis(3,5-dichloro-4-hydroxyphenyl)-5-[[(3,5-dichloro-4-hydroxyphenyl)oxoacetyl]amino]-2,4,5,6,7,8,9,10,10a,11,12,13,14,15,16,17-hexadecahydro-31-hydroxy-15-methyl-6,9,11,14-tetraoxo-18,21-etheno-1,27:23,26-dimethenopyrrolo[3',4':12,13][1,4]diazacyclohexadecino[6,5-d][1,7,10]oxadiazacyclohexadecin-16-yl]carbonyl]amino]-4-hydroxy-, (αR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

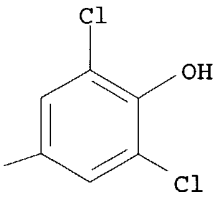
PAGE 1-A



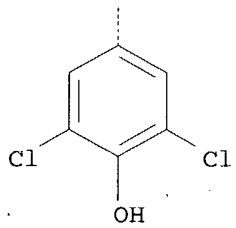
PAGE 1-B



PAGE 1-C

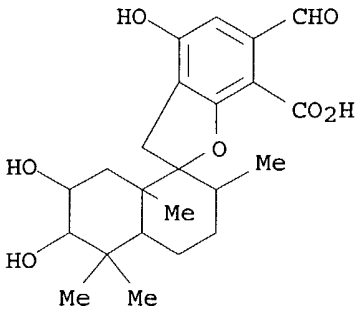


PAGE 2-B



RN 71117-22-1 HCAPLUS
CN Spiro[benzofuran-2(3H),1'(2'H)-naphthalene]-7-carboxylic acid,

6-formyl-3',4',4'a,5',6',7',8',8'a-octahydro-4,6',7'-trihydroxy-2',5',5',8'a-tetramethyl-, (1'R,2'R,4'aS,6'S,7'R,8'aS)- (9CI) (CA INDEX NAME)



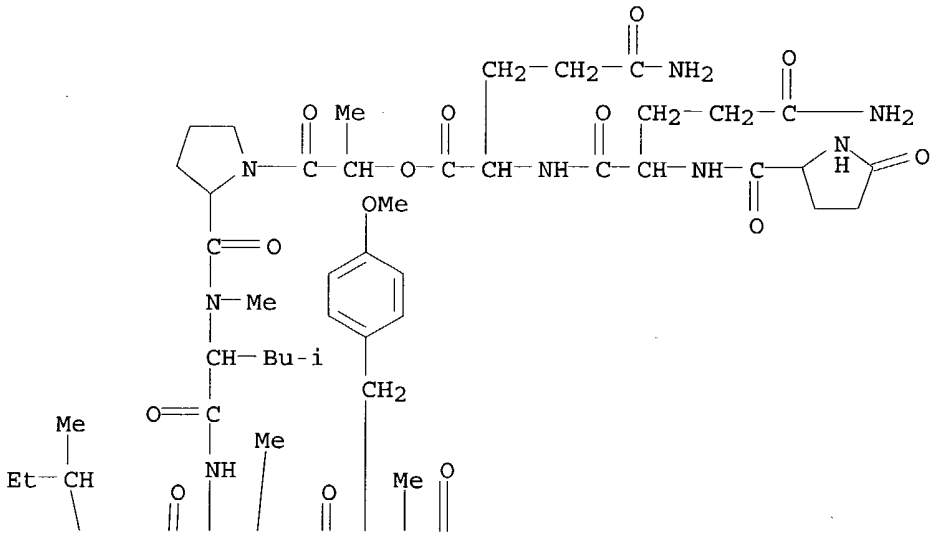
RN 80295-41-6 HCAPLUS
CN Complement C3 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 80295-65-4 HCAPLUS
CN Complement factor H (9CI) (CA INDEX NAME)

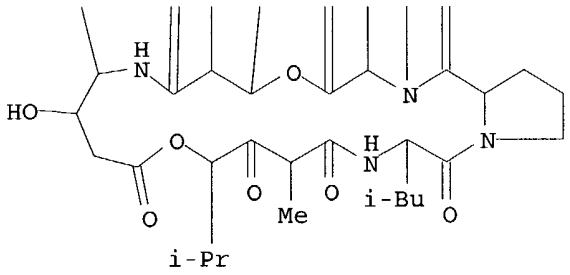
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 80295-66-5 HCAPLUS
CN Complement factor I (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 97230-31-4 HCAPLUS
CN Didemnin E (9CI) (CA INDEX NAME)

PAGE 1-A



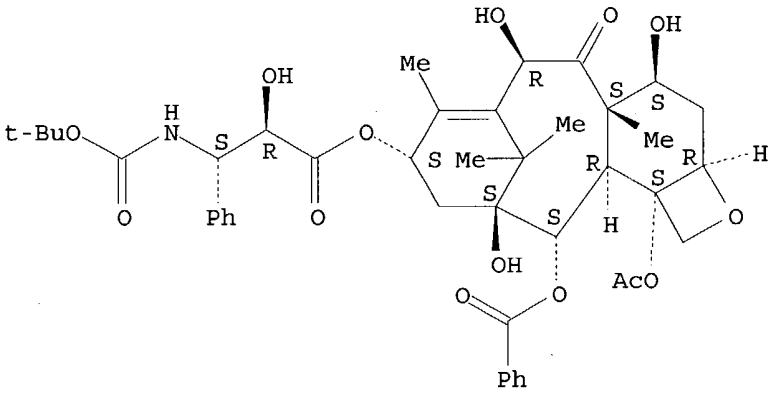
PAGE 2-A



RN 99085-47-9 HCAPLUS
CN Complement decay-accelerating factor (9CI) (CA INDEX NAME)

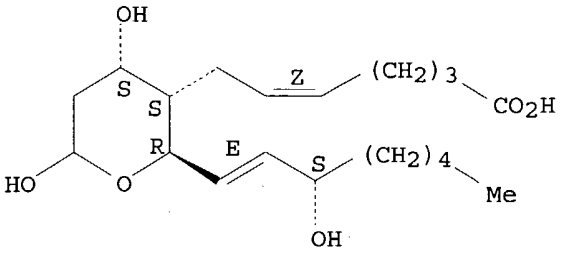
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 114977-28-5 HCAPLUS
CN Benzenepropanoic acid, β-[[(1,1-dimethylethoxy)carbonyl]amino]-α-hydroxy-, (2aR,4S,4aS,6R,9S,11S,12S,12aR,12bS)-12b-(acetyloxy)-12-(benzoyloxy)-2a,3,4,4a,5,6,9,10,11,12,12a,12b-dodecahydro-4,6,11-trihydroxy-4a,8,13,13-tetramethyl-5-oxo-7,11-methano-1H-cyclodeca[3,4]benz[1,2-b]oxet-9-yl ester, (αR,βS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



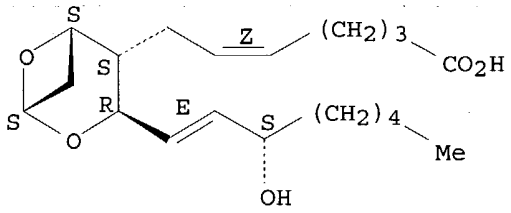
IT **54397-85-2**, TXB2 **57576-52-0**, TXA2
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(of blood plasma, **liposomes** effect on; method of inhibiting side effects of pharmaceutical compns. containing **amphiphilic** vehicles or drug carrier mols.)
RN 54397-85-2 HCAPLUS
CN 5-Heptenoic acid, 7-[(2R,3S,4S)-tetrahydro-4,6-dihydroxy-2-[(1E,3S)-3-hydroxy-1-octenyl]-2H-pyran-3-yl]-, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 57576-52-0 HCAPLUS
CN 5-Heptenoic acid, 7-[(1S,3R,4S,5S)-3-[(1E,3S)-3-hydroxy-1-octenyl]-2,6-dioxabicyclo[3.1.1]hept-4-yl]-, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:484928 HCAPLUS
DOCUMENT NUMBER: 129:113548
TITLE: Pharmaceutical or cosmetic compositions containing homogeneously charged particulate vector
INVENTOR(S): Betbeder, Didier; Major, Michel
PATENT ASSIGNEE(S): Biovector Therapeutics S.A., Fr.
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9829102	A1	19980709	WO 1997-FR2397	19971223
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
FR 2757768	A1	19980703	FR 1996-16146	19961227
FR 2757768	B1	19990402		
CA 2276692	AA	19980709	CA 1997-2276692	19971223
AU 9856688	A1	19980731	AU 1998-56688	19971223

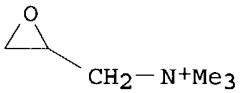
EP 946153 A1 19991006 EP 1997-952990 19971223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2001508425 T2 20010626 JP 1998-529682 19971223
PRIORITY APPLN. INFO.: FR 1996-16146 A 19961227
WO 1997-FR2397 W 19971223

AB The invention concerns a particulate carrier comprising a non-liquid **hydrophilic** nucleus; an **amphiphilic** lamella characterized in that the nucleus carries a global cationic, anionic or neutral charge and that the **amphiphilic** lamella carries a global charge of same polarity as that carried by the nucleus. The invention also concerns a pharmaceutical or cosmetic composition or a nutrient additive containing such a vector. Thus, maltodextrin (500 g) was treated with 7 g NaBH4 followed by the reaction with NaOH, 30.25 mL epichlorohydrin and 382.3 g glycidyltrimethylammonium chloride. The resulting gel was diluted with water a and neutralized with HOAc. Nanoparticle carriers were prepared by using the above polysaccharide and a phospholipid.

IT **106-89-8DP**, Epichlorohydrin, reaction products with glycidyltrimethylammonium chloride and maltodextrin **3033-77-0DP**, Glycidyltrimethylammonium chloride, reaction products with maltodextrin ether **9050-36-6DP**, Maltodextrin, oxiranylmethyl ether, reaction products with glycidyltrimethylammonium chloride
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(pharmaceutical or cosmetic compns. containing homogeneously charged particulate vector)

RN 106-89-8 HCAPLUS
CN Oxirane, (chloromethyl)- (9CI) (CA INDEX NAME)

RN 3033-77-0 HCAPLUS
CN Oxiranemethanaminium, N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)



RN 9050-36-6 HCAPLUS
CN Maltodextrin (9CI) (CA INDEX NAME)

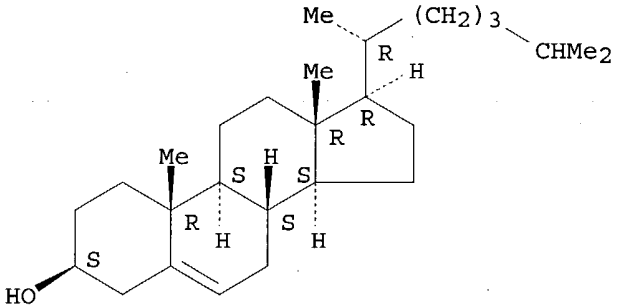
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **57-88-5**, **Cholesterol**, biological studies **63-89-8**, DPPC **124-30-1**, Stearylamine **3036-82-6**, Dipalmitoylphosphatidylserine **4537-77-3**, Dipalmitoylphosphatidylglycerol **4537-78-4**, Distearoylphosphatidylglycerol **9004-34-6**, Cellulose, biological studies **9004-54-0**, Dextran, biological studies **9005-25-8**

, Starch, biological studies **9050-36-6D**, Maltodextrin, ethers **19698-29-4**, Dipalmitoylphosphatidic acid **30170-00-4**, Dimyristoylphosphatidic acid **61361-72-6**, Dimyristoylphosphatidylglycerol **62700-69-0**, Dioleoylphosphatidylglycerol **137720-22-0D**, 1-acylated **144189-73-1**, DOTAP
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceutical or cosmetic compns. containing homogeneously charged particulate vector)

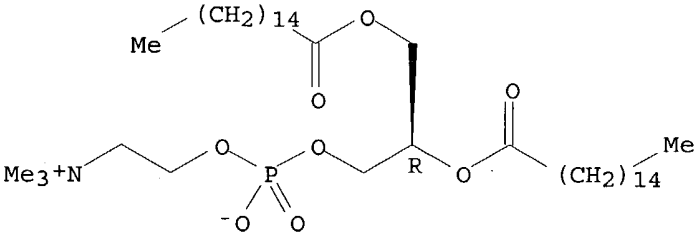
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

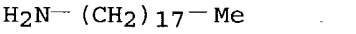


RN 63-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

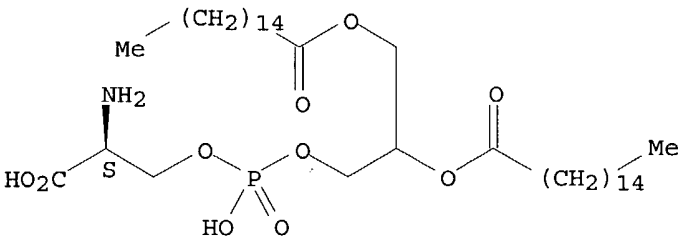


RN 124-30-1 HCAPLUS
CN 1-Octadecanamine (9CI) (CA INDEX NAME)

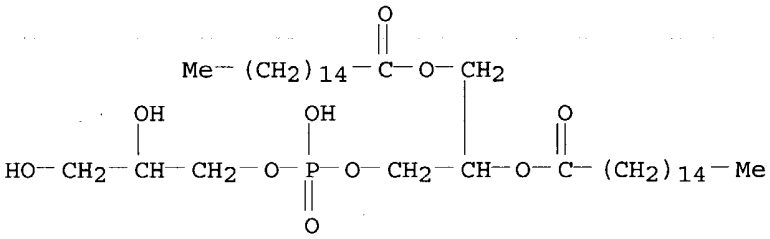


RN 3036-82-6 HCAPLUS
CN L-Serine, 2,3-bis[(1-oxohexadecyl)oxy]propyl hydrogen phosphate (ester) (9CI) (CA INDEX NAME)

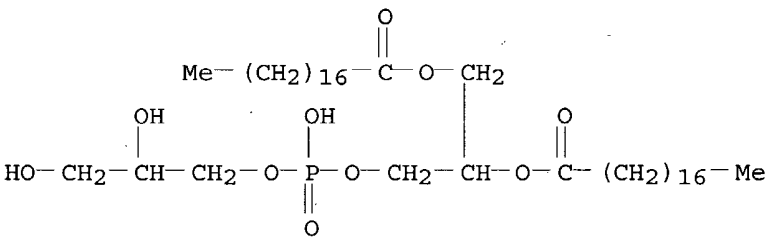
Absolute stereochemistry.



RN 4537-77-3 HCAPLUS
CN Hexadecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 4537-78-4 HCAPLUS
CN Octadecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 9004-34-6 HCAPLUS
CN Cellulose (8CI, 9CI) (CA INDEX NAME)

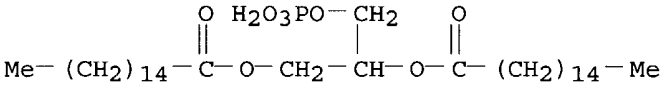
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-25-8 HCAPLUS
CN Starch (8CI, 9CI) (CA INDEX NAME)

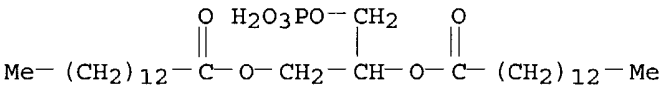
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9050-36-6 HCAPLUS
CN Maltodextrin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

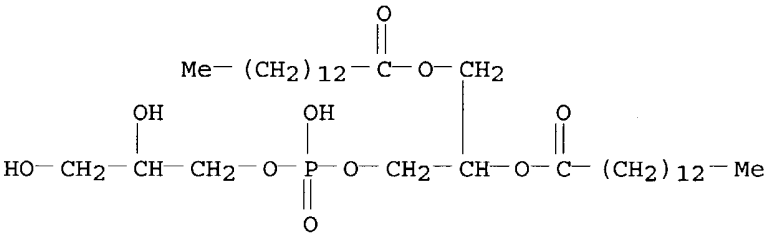
RN 19698-29-4 HCAPLUS
CN Hexadecanoic acid, 1-[(phosphonooxy)methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 30170-00-4 HCAPLUS
CN Tetradecanoic acid, 1-[(phosphonooxy)methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



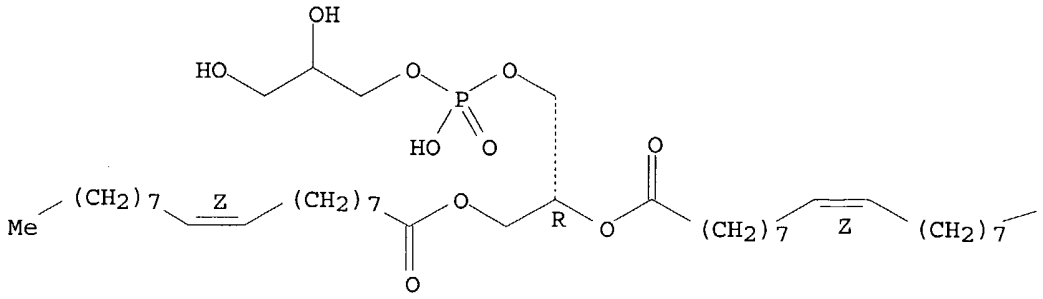
RN 61361-72-6 HCAPLUS
CN Tetradecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 62700-69-0 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, (1R)-1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

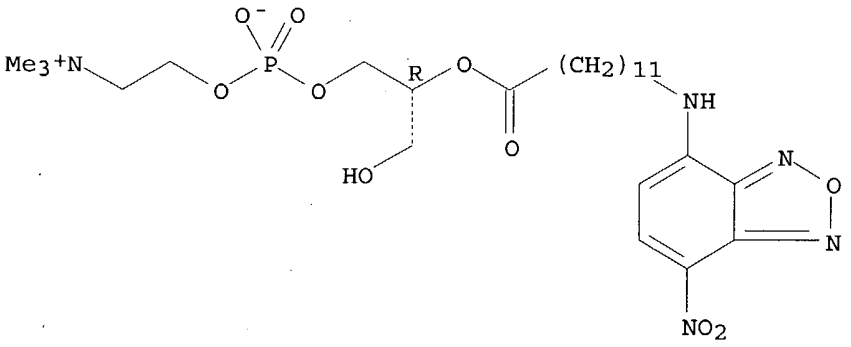
PAGE 1-A



PAGE 1-B

RN 137720-22-0 HCAPLUS
CN 3,5,8-Trioxa-4-phosphaeicosan-1-aminium, 4-hydroxy-7-(hydroxymethyl)-N,N,N-trimethyl-20-[(7-nitro-2,1,3-benzoxadiazol-4-yl)amino]-9-oxo-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



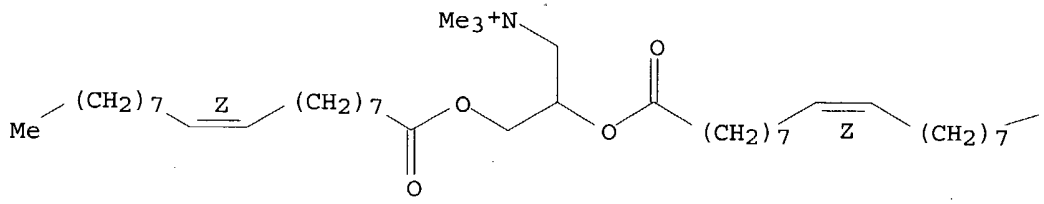
RN 144189-73-1 HCAPLUS
CN 1-Propanaminium, N,N,N-trimethyl-2,3-bis[[(9Z)-1-oxo-9-octadecenyl]oxy]-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 113669-21-9
CMF C42 H80 N O4

Double bond geometry as shown.

PAGE 1-A



Me

CM 2

CRN 21228-90-0
CMF C H3 O4 S

Me—O—SO_3^-

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:347641 HCAPLUS
DOCUMENT NUMBER: 129:113412
TITLE: Polymeric chitosan-based **vesicles** for drug delivery
AUTHOR(S): Uchegbu, Ijeoma F.; Schatzlein, Andreas G.; Tetley, Laurence; Gray, Alexander I.; Sludden, Julieann; Siddique, Soryia; Mosha, Erasto
CORPORATE SOURCE: Department of Pharmaceutical Sciences, University of Strathclyde, Glasgow, G1 1XW, UK
SOURCE: Journal of Pharmacy and Pharmacology (1998), 50(5), 453-458
CODEN: JPPMAB; ISSN: 0022-3573
PUBLISHER: Royal Pharmaceutical Society of Great Britain
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A simple carbohydrate polymer glycol chitosan (d.p. 800 approx.) has been investigated for its ability to form polymeric **vesicle** drug carriers. The attachment of hydrophobic groups to glycol chitosan should yield an **amphiphilic** polymer capable of self-assembly into **vesicles.** Chitosan is used because the membrane-penetration enhancement of chitosan polymers offers the possibility of fabricating a drug delivery system suitable for the oral and intranasal administration of gut-labile mols. Glycol chitosan modified by attachment of a strategic number of fatty acid pendant groups (11-16 mol%) assembles into unilamellar polymeric **vesicles** in the presence of **cholesterol.** These polymeric **vesicles** are found to be biocompatible and hemocompatible and capable of entrapping water-soluble drugs. By use of an ammonium sulfate gradient bleomycin (MW 1400), for example, can be efficiently loaded on to these polymeric **vesicles** to yield a bleomycin-to-polymer ratio of 0.5 units mg-1. Previously polymers were thought to assemble into **vesicles** only if the polymer backbone was separated from the membrane-forming amphiphile by a **hydrophilic** side-arm spacer. The **hydrophilic** spacer was thought to be necessary to decouple the random motion of the polymer backbone from the ordered amphiphiles that make up the **vesicle** membrane. However, stable polymeric **vesicles** for use in drug delivery have been prepared from a modified carbohydrate polymer, palmitoyl glycol chitosan,

without this specific architecture. These polymeric **vesicles** efficiently entrap water-soluble drugs.

IT **214222-35-2P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(polymeric chitosan-based **vesicles** for drug delivery)
RN 214222-35-2 HCAPLUS
CN Chitosan, N-(1-oxohexadecyl), 2-hydroxyethyl ether (9CI) (CA INDEX NAME)

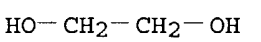
CM 1

CRN 57407-13-3
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

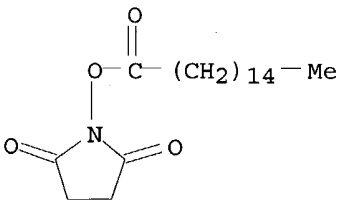
CRN 107-21-1
CMF C2 H6 O2



IT **11056-06-7**, Bleomycin
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymeric chitosan-based **vesicles** for drug delivery)
RN 11056-06-7 HCAPLUS
CN Bleomycin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **14464-31-4 39280-86-9**, Glycol chitosan
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymeric chitosan-based **vesicles** for drug delivery)
RN 14464-31-4 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(1-oxohexadecyl)oxy]- (9CI) (CA INDEX NAME)



RN 39280-86-9 HCAPLUS
CN Chitosan, 2-hydroxyethyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 9012-76-4
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 107-21-1
CMF C2 H6 O2

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:338109 HCAPLUS
DOCUMENT NUMBER: 129:19697
TITLE: Preparation of stable formulations of lipid-nucleic acid complexes for efficient in vivo delivery
INVENTOR(S): Papahadjopoulos, Demetrios; Hong, Deelung; Zheng, Weiwen
PATENT ASSIGNEE(S): Regents of the University of California, USA
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9820857	A1	19980522	WO 1997-US20690	19971110
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2271325	AA	19980522	CA 1997-2271325	19971110
AU 9871779	A1	19980603	AU 1998-71779	19971110
AU 729655	B2	20010208		
EP 956001	A1	19991117	EP 1997-949417	19971110
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001510457	T2	20010731	JP 1998-522807	19971110
US 2002182249	A1	20021205	US 2002-121962	20020412

PRIORITY APPLN. INFO.:		
US 1996-30578P	P	19961112
US 1997-967791	A1	19971110
WO 1997-US20690	W	19971110
US 1999-420908	A1	19991020

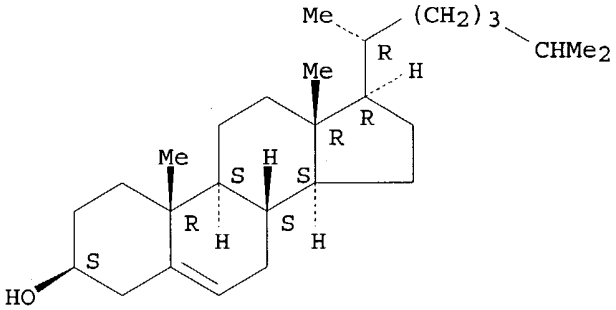
AB The present invention provides for lipid:nucleic acid complexes that have increased shelf life and high transfection activity in vivo following i.v. injection, and methods of preparing such complexes. The methods generally involve contacting a nucleic acid with an organic polycation to produce a condensed nucleic acid, and then combining the condensed nucleic acid with a lipid comprising an **amphiphilic** cationic lipid to produce the lipid:nucleic acid complex. This complex can be further stabilized by the addition of a **hydrophilic** polymer attached to hydrophobic side chains. The complex can also be made specific for specific cells, by

incorporating a targeting moiety such as a Fab' fragment attached to a **hydrophilic** polymer. An example is give for preparation of stable lipid:plasmid DNA complexes for in vivo gene delivery comprising **liposomes** prepared from dimethyldioctadecylammonium bromide, dioleoylphosphatidylethanolamine, and **cholesterol**, and a luciferase reported system.

IT **57-88-5**, **Cholesterol**, biological studies
2462-63-7, Dioleoylphosphatidylethanolamine **3700-67-2**, Dimethyldioctadecylammonium bromide **4537-76-2D**, Distearoylphosphatidylethanolamine, conjugates with PEG **25322-68-3** **25322-68-3D**, conjugates with phosphatidylethanolamines **37758-47-7**, Ganglioside Gm1
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(preparation of stable formulations of lipid-nucleic acid complexes for efficient in vivo delivery)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

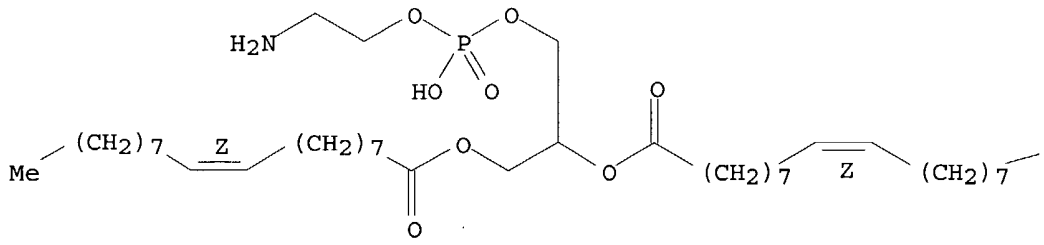
Absolute stereochemistry.



RN 2462-63-7 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

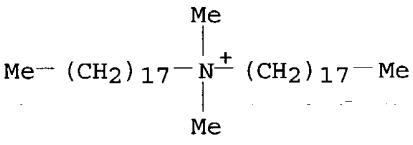
Double bond geometry as shown.

PAGE 1-A

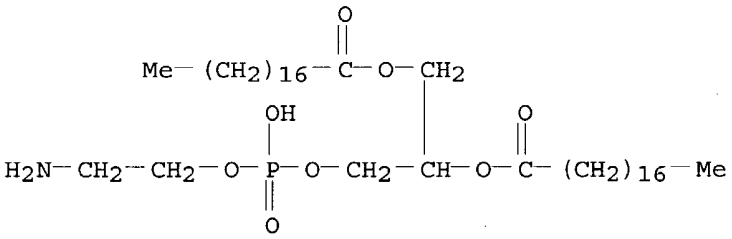


Me

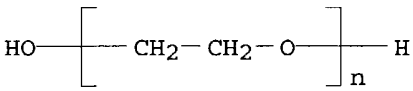
RN 3700-67-2 HCAPLUS
CN 1-Octadecanaminium, N,N-dimethyl-N-octadecyl-, bromide (9CI) (CA INDEX NAME)



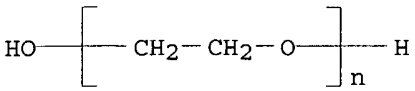
RN 4537-76-2 HCAPLUS
CN Octadecanoic acid, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)

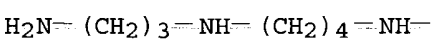


RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (9CI) (CA INDEX NAME)



RN 37758-47-7 HCAPLUS
CN Ganglioside GM1 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **71-44-3**, Spermine **124-20-9**, Spermidine
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(preparation of stable formulations of lipid-nucleic acid complexes for efficient in vivo delivery)
RN 71-44-3 HCAPLUS
CN 1,4-Butanediamine, N,N'-bis(3-aminopropyl)- (8CI, 9CI) (CA INDEX NAME)



RN 124-20-9 HCAPLUS
CN 1,4-Butanediamine, N-(3-aminopropyl)- (8CI, 9CI) (CA INDEX NAME)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

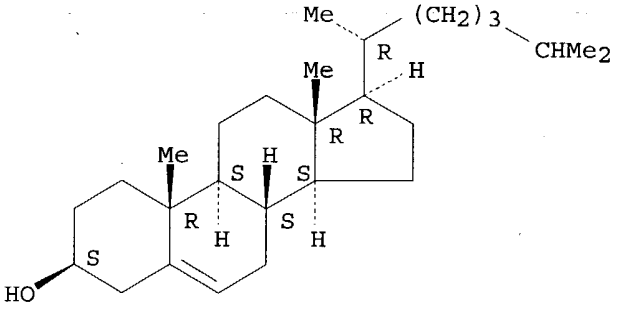
L18 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:87577 HCAPLUS
DOCUMENT NUMBER: 120:87577
TITLE: Nonionic surfactant **vesicles**: a study of **vesicle** formation, characterization, and stability
AUTHOR(S): Hofland, Hans E. J.; Bouwstra, Joke A.; Gooris, Gert S.; Spies, Fer; Talsma, Herre; Junginger, Hans E.
CORPORATE SOURCE: Div. Pharm. Technol., Cent. Bio-Pharm. Sci., Leiden, 2300 RA, Neth.
SOURCE: Journal of Colloid and Interface Science (1993), 161(2), 366-76
CODEN: JCISA5; ISSN: 0021-9797
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The aggregation state of monoalkyl polyoxyethylene ether surfactants was investigated. This study mainly focused on the aggregation of surfactant mols. into vesicular structures, which can be used as drug delivery systems. The physicochem. parameters that play a role in **vesicle** formation were determined by varying both the hydrophobic and the **hydrophilic** moiety of the **amphiphilic** mols. systematically. A wide range of these nonionic surfactants was studied. The alkyl chain length was varied between 10 and 18 carbon atoms, and the length of the polyoxyethylene head group was varied from 3 to 7 ethyleneoxide units. It appeared that stable **vesicle** suspensions could only be obtained using surfactants that form liquid state bilayers, and contain a relatively small head group compared to the alkyl chain. These surfactants exhibit a lamellar phase in the water rich regions of the water/surfactant phase diagram. If the head group were too

large, micelles instead of **vesicles** were formed. After addition of 40 mol% **cholesterol vesicle** formation was possible for all surfactants used. It appeared that the size of the **vesicles** is dependent on the preparation method, but can also be controlled by shaking the suspension vigorously. The nonionic surfactant **vesicles** were stable at room temperature for at least two months. Electrolytes such as NaCl and phosphate appeared to have an effect on the bilayer stacking of the **vesicles.**

IT **57-88-5, Cholesterol**, properties **7647-14-5**, Sodium chloride, properties **7722-88-5**, Sodium diphosphate **7778-77-0**, Potassium biphosphate
RL: PRP (Properties)
(nonionic surfactant **vesicles** formation in presence of)

RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

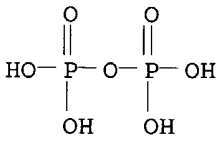
Absolute stereochemistry.



RN 7647-14-5 HCAPLUS
CN Sodium chloride (NaCl) (9CI) (CA INDEX NAME)

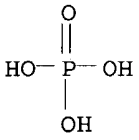
Cl— Na

RN 7722-88-5 HCAPLUS
CN Diphosphoric acid, tetrasodium salt (9CI) (CA INDEX NAME)



●4 Na

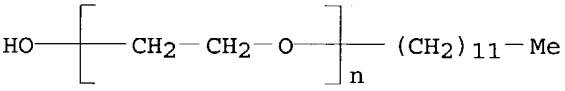
RN 7778-77-0 HCAPLUS
CN Phosphoric acid, monopotassium salt (8CI, 9CI) (CA INDEX NAME)



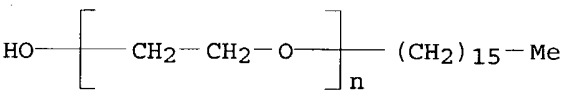
● K

IT **9002-92-0P**, Polyoxyethylene monododecyl ether **9004-95-9P**, Polyoxyethylene monohexadecyl ether **9005-00-9P**, Polyoxyethylene monooctadecyl ether **26183-52-8P**, Polyoxyethylene monodecyl ether **27306-79-2P**, Polyoxyethylene monotetradecyl ether
RL: PREP (Preparation)
(**vesicles** of, formation, characterization and stability of)

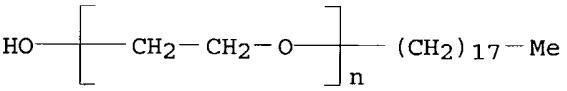
RN 9002-92-0 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-dodecyl-ω-hydroxy- (9CI) (CA INDEX NAME)



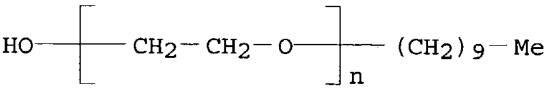
RN 9004-95-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-hexadecyl-ω-hydroxy- (9CI) (CA INDEX NAME)



RN 9005-00-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-octadecyl-ω-hydroxy- (9CI) (CA INDEX NAME)

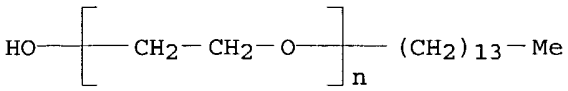


RN 26183-52-8 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-decyl-ω-hydroxy- (9CI) (CA INDEX NAME)



RN 27306-79-2 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-tetradecyl-ω-hydroxy- (9CI) (CA INDEX NAME)



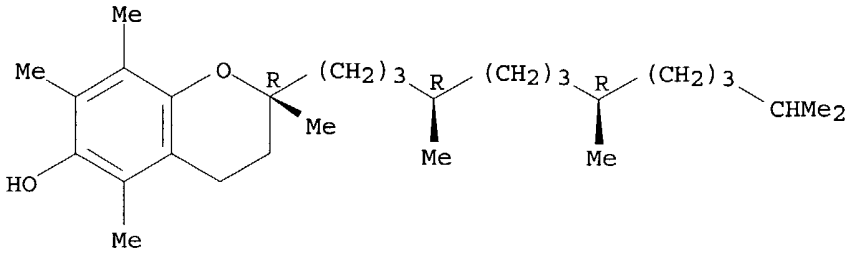
L18 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:14874 HCAPLUS
DOCUMENT NUMBER: 120:14874
TITLE: Sterilization of **liposomes** by heat treatment
AUTHOR(S): Zuidam, Nicolaas J.; Lee, Stephen S. L.; Crommelin, Daan J. A.
CORPORATE SOURCE: Fac. Pharm., Utrecht Univ., Utrecht, Neth.
SOURCE: Pharmaceutical Research (1993), 10(11), 1591-6
CODEN: PHREEB; ISSN: 0724-8741
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Autoclaving of **liposomes** composed of egg phospholipids or saturated phospholipids, the latter sometimes combined with **cholesterol**, was performed in an isotonic acetate buffer (pH 4.0) or Hepes buffer (pH 7.4). After a standard autoclaving cycle (15 min, 121°), no change was observed in pH, size, and extent of oxidation Dependent on the exptl. conditions, a minor or substantial increase in the fraction of hydrolyzed phospholipids was found. After a sterilization cycle, pronounced leakage was found for a water-soluble, encapsulated compound (calcein) and for an **amphiphilic** compound (doxorubicin). Lipophilic, **liposome** bilayer-associated compds. [N-trifluoroacetyldoxorubicin-14-valerate (AD-32) and α-tocopherol] remained in the **liposome** after autoclaving. However, substantial degradation of AD-32 was observed Under proper conditions **liposomes** without or with thermostable, lipophilic drugs can be sterilized by autoclaving. However, the hydrolysis of phospholipids can pose a problem, as hydrolysis kinetics depend on the pH used. In the chosen circumstances, the autoclaving cycle caused massive loss of **hydrophilic**, nonbilayer interacting compds.; under those conditions free drug removal or drug encapsulation should be performed after the autoclaving step.

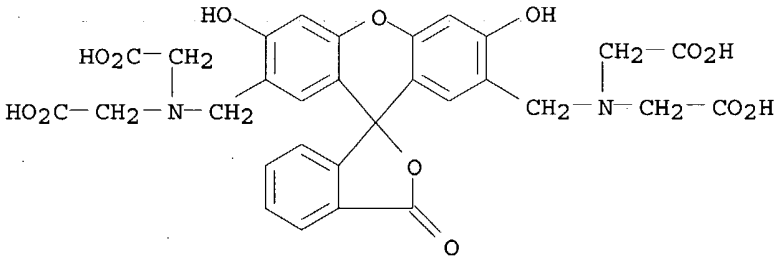
IT **59-02-9**, α-Tocopherol **1461-15-0**, Calcein **23214-92-8**, Doxorubicin **56124-62-0**, Ad-32
RL: USES (Uses)
(**liposomes** containing phospholipids and, sterilization of, by heat)

RN 59-02-9 HCAPLUS
CN 2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-[(4R,8R)-4,8,12-trimethyltridecyl]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

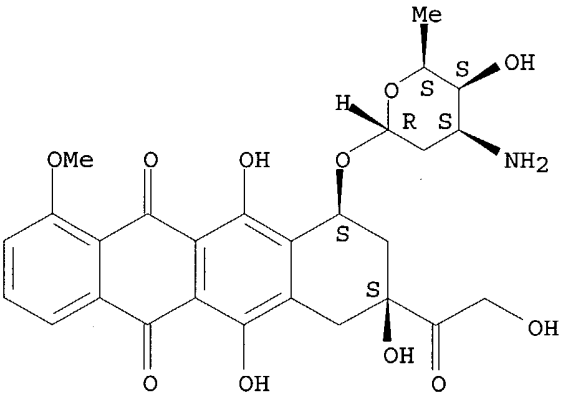


RN 1461-15-0 HCAPLUS
CN Glycine, N,N'-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene]-2',7'-diyl)bis(methylene)]bis[N-(carboxymethyl)- (9CI) (CA INDEX NAME)



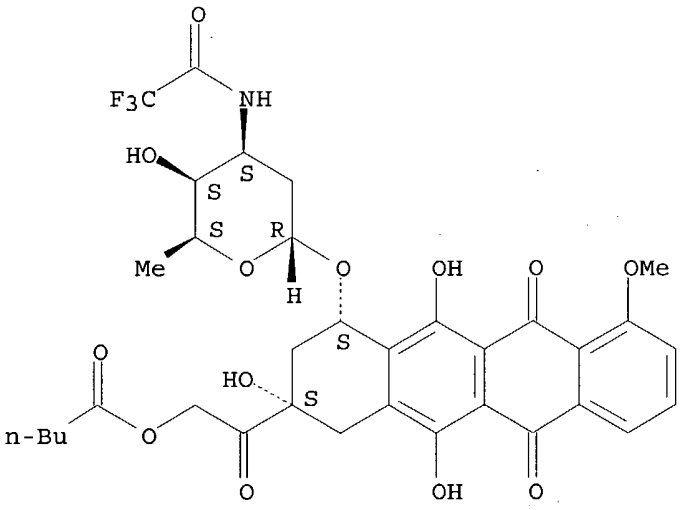
RN 23214-92-8 HCAPLUS
CN 5,12-Naphthacenedione, 10-[(3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S,10S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



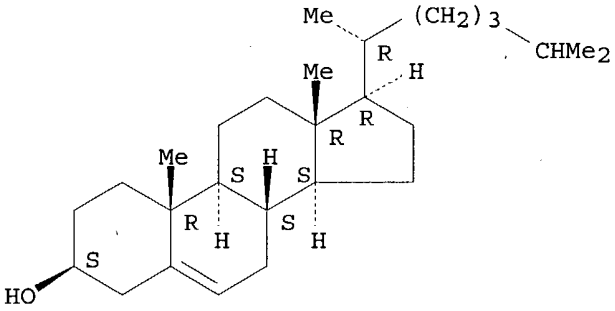
RN 56124-62-0 HCAPLUS
CN Pentanoic acid, 2-[(2S,4S)-1,2,3,4,6,11-hexahydro-2,5,12-trihydroxy-7-methoxy-6,11-dioxo-4-[[2,3,6-trideoxy-3-[(trifluoroacetyl)amino]-α-L-lyxo-hexopyranosyl]oxy]-2-naphthacenyl]-2-oxoethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



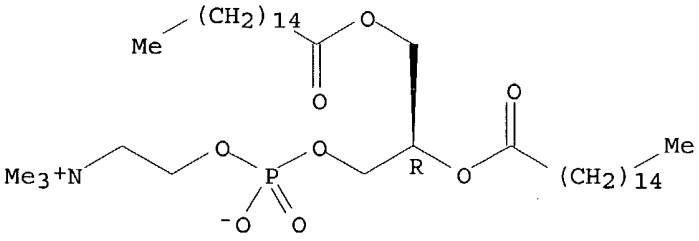
IT **57-88-5**, **Cholesterol**, biological studies **63-89-8**
, Dipalmitoylphosphatidylcholine **4537-77-3**,
Dipalmitoylphosphatidylglycerol
RL: BIOL (Biological study)
(**liposomes** containing, sterilization of, by heat)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

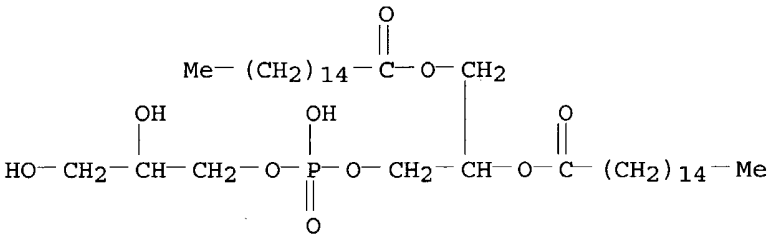


RN 63-89-8 HCAPLUS
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

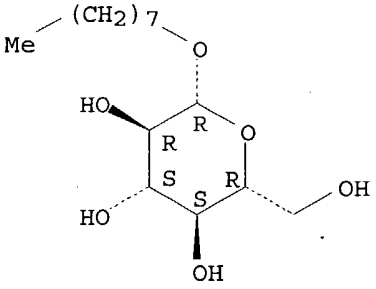


RN 4537-77-3 HCAPLUS
CN Hexadecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



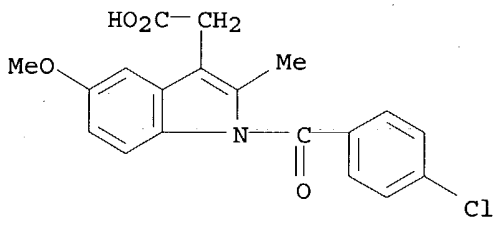
L18 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:639572 HCAPLUS
DOCUMENT NUMBER: 115:239572
TITLE: Encapsulation of drugs into large unilamellar **liposomes** prepared by an extemporaneous method
AUTHOR(S): Liautard, Janny; Philippot, J. R.; Liautard, Jean Pierre
CORPORATE SOURCE: USTL, Montpellier, 34095, Fr.
SOURCE: Journal of Microencapsulation (1991), 8(3), 381-9
CODEN: JOMIEF; ISSN: 0265-2048
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The method developed for extemporaneous preparation of large unilamellar **liposomes** was applied to the encapsulation of 12 different antibiotics, anti-asthmatic and anti-inflammatory drugs. The behavior of these drugs, during encapsulation, assigns them to one of the 3 classes: **hydrophilic**, hydrophobic or both. Alone, the first type of compound gave an appreciable encapsulation. However, the entrapment yield depended on the resp. charges of the **liposome** and the drug. The **amphiphilic** mols. tested are permeant and thus did not stay inside the **liposomes.** Only one of the hydrophobic drugs analyzed associated with the **liposome** membrane lipids with a good yield.
IT **29836-26-8**
RL: BIOL (Biological study)
(encapsulation of drugs into large unilamellar **liposomes** prepared by extemporaneous method in presence of)
RN 29836-26-8 HCAPLUS
CN β-D-Glucopyranoside, octyl (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



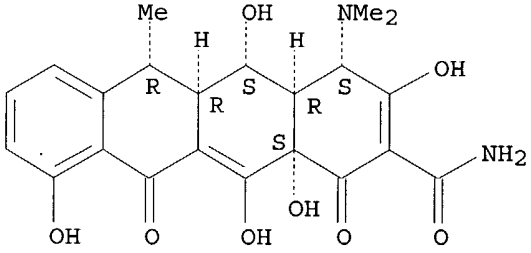
IT **53-86-1P 564-25-0P**, Doxycycline **738-70-5P**, Trimethoprim **1403-66-3P**, Gentamycin **6998-60-3P**, Rifamycin **14897-39-3P 15307-86-5P**, Diclofenac **16110-51-3P 16846-24-5P**, Josamycin **18559-94-9P**, Salbutamol **50370-12-2P**, Cefadroxil
RL: PREP (Preparation)
(encapsulation of, into large unilamellar **liposomes** prepared by extemporaneous method)

RN 53-86-1 HCAPLUS
CN 1H-Indole-3-acetic acid, 1-(4-chlorobenzoyl)-5-methoxy-2-methyl- (9CI) (CA INDEX NAME)

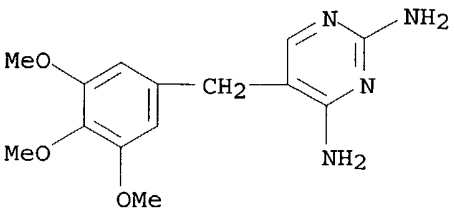


RN 564-25-0 HCAPLUS
CN 2-Naphthacenecarboxamide, 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-, (4S,4aR,5S,5aR,6R,12aS)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



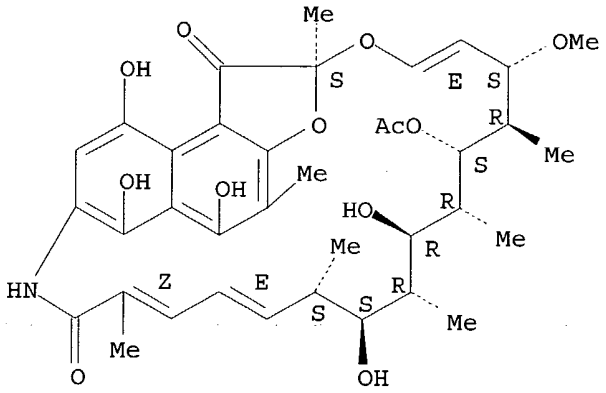
RN 738-70-5 HCAPLUS
CN 2,4-Pyrimidinediamine, 5-[(3,4,5-trimethoxyphenyl)methyl]- (9CI) (CA INDEX NAME)



RN 1403-66-3 HCAPLUS
CN Gentamicin (9CI) (CA INDEX NAME)

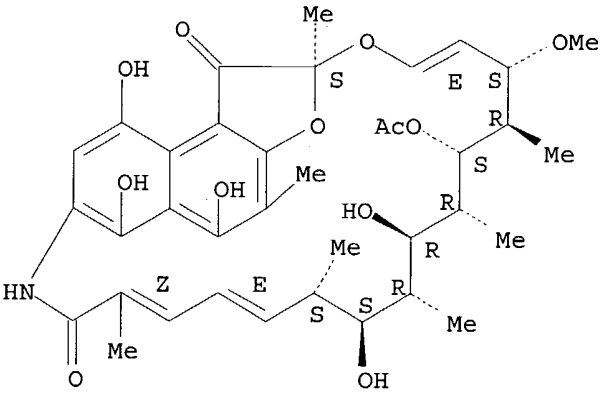
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 6998-60-3 HCAPLUS
CN Rifamycin (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as described by E or Z.



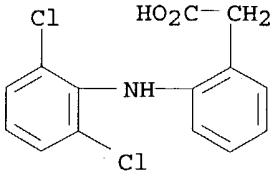
RN 14897-39-3 HCAPLUS
CN Rifamycin, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as described by E or Z.

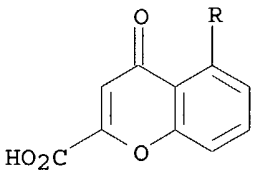


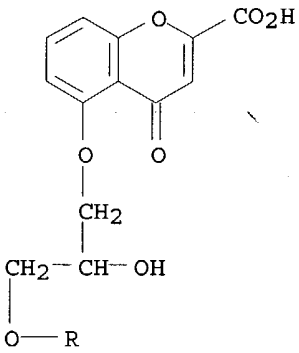
● Na

RN 15307-86-5 HCAPLUS
CN Benzeneacetic acid, 2-[(2,6-dichlorophenyl)amino]- (9CI) (CA INDEX NAME)



RN 16110-51-3 HCAPLUS
CN 4H-1-Benzopyran-2-carboxylic acid, 5,5'-[(2-hydroxy-1,3-propanediyl)bis(oxy)]bis[4-oxo- (9CI) (CA INDEX NAME)

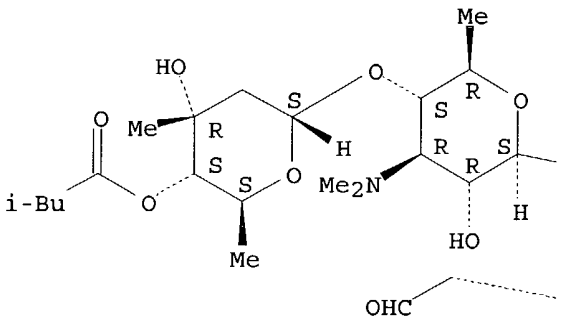


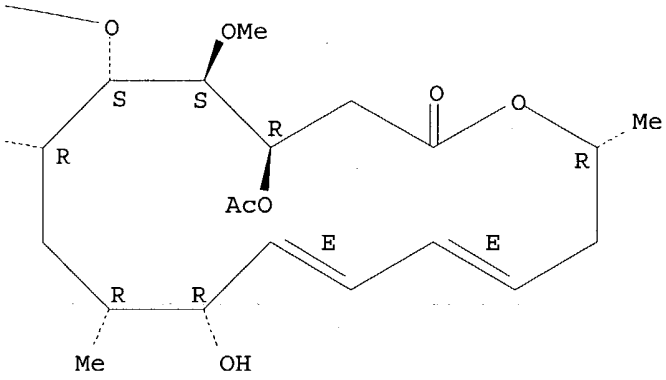


RN 16846-24-5 HCAPLUS
CN Leucomycin V, 3-acetate 4B-(3-methylbutanoate) (9CI) (CA INDEX NAME)

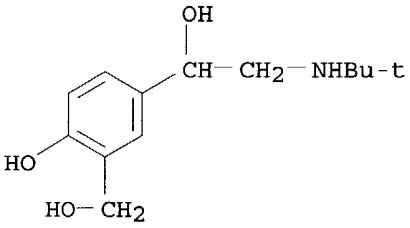
Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



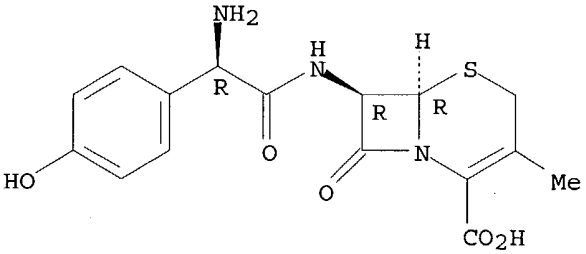


RN 18559-94-9 HCAPLUS
CN 1,3-Benzenedimethanol, α1-[[(1,1-dimethylethyl)amino]methyl]-4-hydroxy- (9CI) (CA INDEX NAME)



RN 50370-12-2 HCAPLUS
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[(2R)-amino(4-hydroxyphenyl)acetyl]amino]-3-methyl-8-oxo-, (6R,7R)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



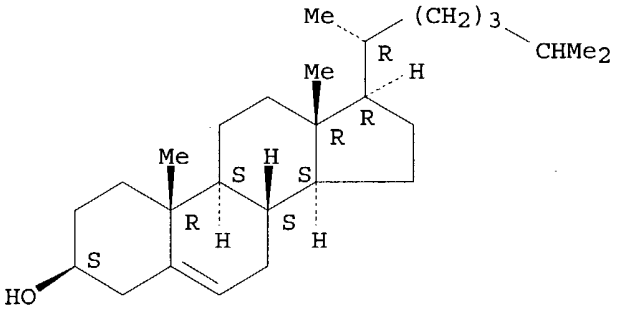
IT **7732-18-5P**
RL: PREP (Preparation)
(**hydrophilicity**, of drugs, encapsulation into large unilamellar **liposomes** prepared by extemporaneous method in

relation to)
RN 7732-18-5 HCAPLUS
CN Water (8CI, 9CI) (CA INDEX NAME)

H_2O

RL: PREP (Preparation)
(hydrophobicity, of drugs, encapsulation into large unilamellar **liposomes** prepd. by extemporaneous method in relation to
IT **57-88-5, Cholesterol**, biological studies
RL: BIOL (Biological study)
(**liposomes** containing, encapsulation of drugs into large unilamellar, by extemporaneous method)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L18 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:639540 HCAPLUS
DOCUMENT NUMBER: 111:239540
TITLE: **Liposomes** containing **hydrophilic** drugs and a process for manufacture them
INVENTOR(S): Profitt, Richard Thomas; Adler-Moore, Jill; Chiang, Su-Ming
PATENT ASSIGNEE(S): Vestar, Inc., USA
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 317120	A1	19890524	EP 1988-310278	19881101
EP 317120	B1	19910828		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AU 8824161	A1	19890518	AU 1988-24161	19881024
AU 598958	B2	19900705		
AT 66598	E	19910915	AT 1988-310278	19881101
ES 2029330	T3	19920801	ES 1988-310278	19881101
KR 9707187	B1	19970507	KR 1988-14547	19881105
NO 8804989	A	19890516	NO 1988-4989	19881109

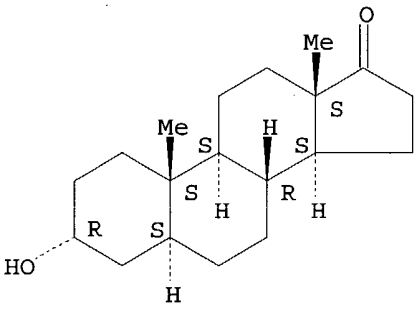
NO 178484	B	19960102			
NO 178484	C	19960410			
JP 01160915	A2	19890623	JP 1988-284828		19881110
JP 2958774	B2	19991006			
CA 1339008	A1	19970325	CA 1988-582730		19881110
DK 8806293	A	19890513	DK 1988-6293		19881111
DK 175052	B1	20040510			
US 6770290	B1	20040803	US 1990-600154		19901019
US 5965156	A	19991012	US 1995-469251		19950606
US 2004175417	A1	20040909	US 2004-802377		20040317
PRIORITY APPLN. INFO.:			US 1987-119518	A	19871112
			EP 1988-310278	A	19881101
			US 1990-600154	A1	19901019

AB A novel **liposome** composition and a method for solubilizing **amphiphilic** drugs in a small amount of organic solvent for use in improved **liposomes** are described. A phosphatidylglycerol is acidified and the **amphiphilic** drugs suspended in an organic solvent are added to solubilize the drugs. Distearoylphosphatidylglycerol Na solution dissolved in CHCl3-MeOH mixture (1:1) was acidified with HCl and then mixed with amphotericin B (I) solution dissolved in the same solvent. Hydrogenated egg phosphatidylcholine solution and **cholesterol** solution dissolved in the same solvent were then mixed with the mixture The pH was adjusted to 4.5 by addition of 2.5 N NaOH. The molar ratio of I, distearoylphosphatidylglycerol, hydrogenated egg phosphatidylcholine, and **cholesterol** in the solution was 0.4, 0.4, 2.0, and 1.0 resp. The lipid solution was spray-dried to give a powder, which was hydrated with 9% lactose-containing 10 mM succinate buffer (pH 5.62) and sonicated to give **liposomes.** Mice were i.v. inoculated with Candida albicans and 3 days post-infection, mice were treated with a single dose of either free I or liposomal I. There was no dose level of free I which produced any survivors at 29 days post-infection; however, all animals treated with 10 or 15 mg/kg of liposomal I were still alive 42 days post-infection.

IT **53-41-8**, Androsterone **57-87-4**, Ergosterol **57-88-5**, **Cholesterol**, biological studies **83-48-7**, Stigmasterol **2644-64-6**, Dipalmitoylphosphatidylcholine **4537-78-4**, Distearoylphosphatidylglycerol **4539-70-2**, Distearoylphosphatidylcholine **61361-72-6**, Dimyristoylphosphatidylglycerol **63644-55-3**, Dilauroylphosphatidylglycerol **124011-52-5**
RL: BIOL (Biological study)
(**liposomes** containing amphotericin B and)

RN 53-41-8 HCAPLUS
CN Androstan-17-one, 3-hydroxy-, (3α,5α)- (9CI) (CA INDEX NAME)

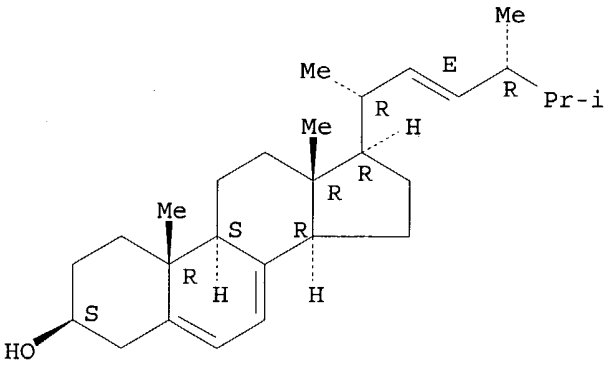
Absolute stereochemistry.



RN 57-87-4 HCAPLUS

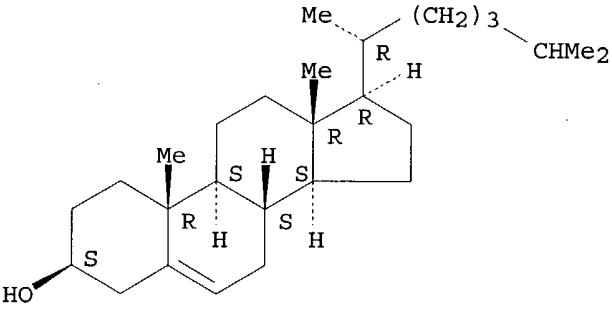
CN Ergosta-5,7,22-trien-3-ol, (3β,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



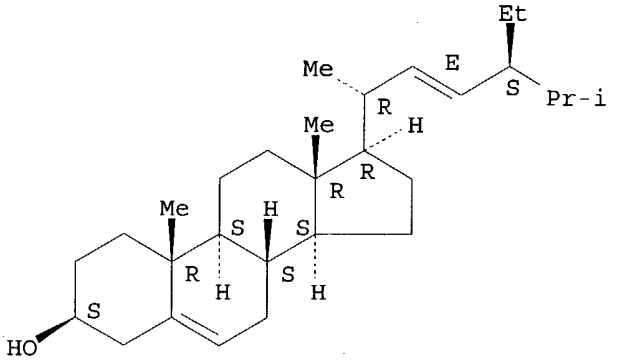
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



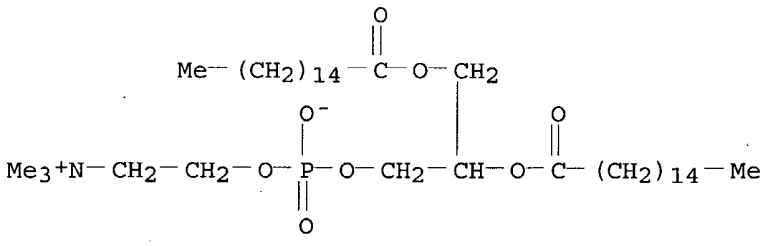
RN 83-48-7 HCAPLUS
CN Stigmasta-5,22-dien-3-ol, (3β,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

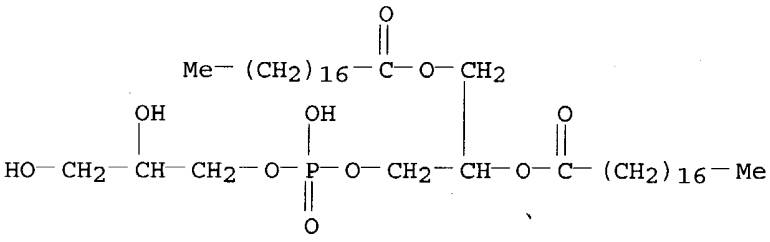


RN 2644-64-6 HCAPLUS

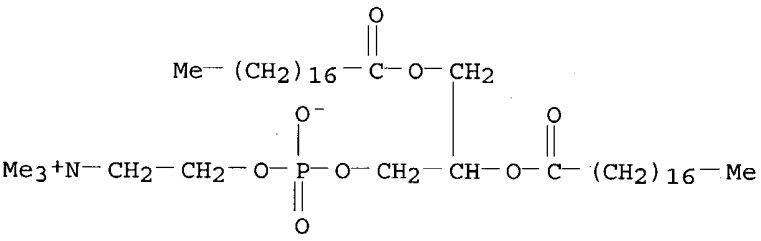
CN 3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



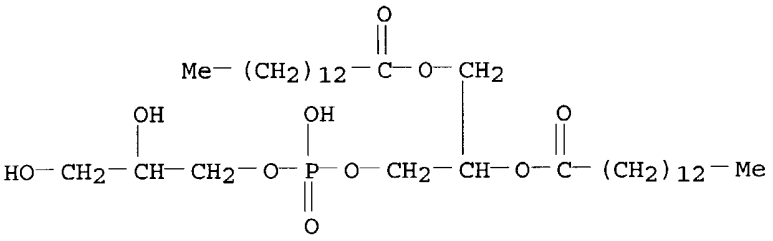
RN 4537-78-4 HCAPLUS
CN Octadecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



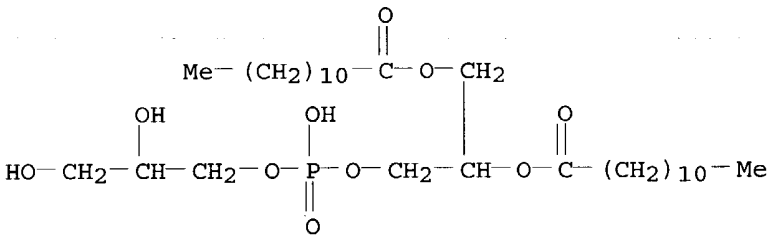
RN 4539-70-2 HCAPLUS
CN 3,5,9-Trioxa-4-phosphaheptacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxooctadecyl)oxy]-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



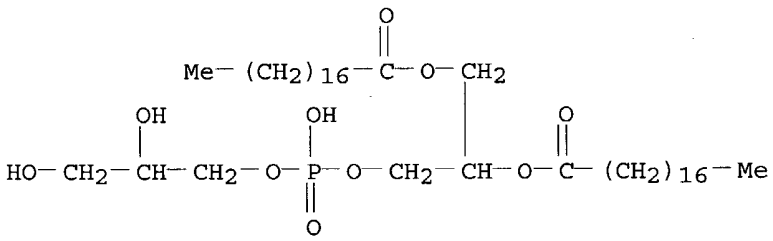
RN 61361-72-6 HCAPLUS
CN Tetradecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



RN 63644-55-3 HCAPLUS
CN Dodecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)



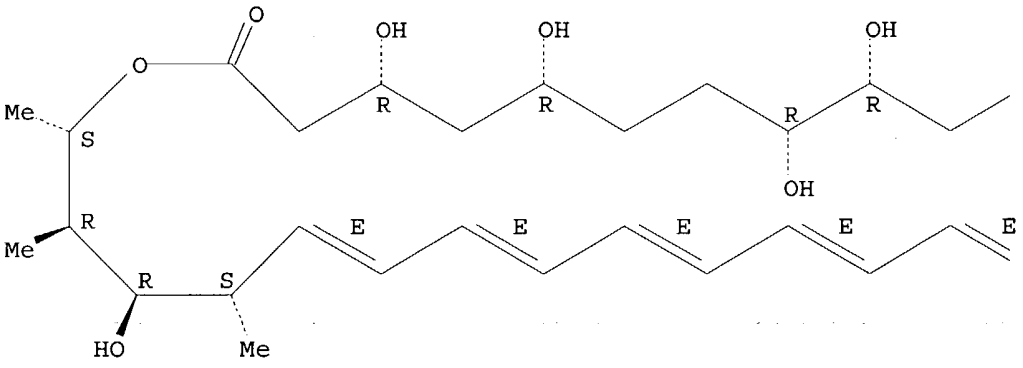
RN 124011-52-5 HCAPLUS
CN Octadecanoic acid, 1-[[[(2,3-dihydroxypropoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester, sodium salt (9CI) (CA INDEX NAME)



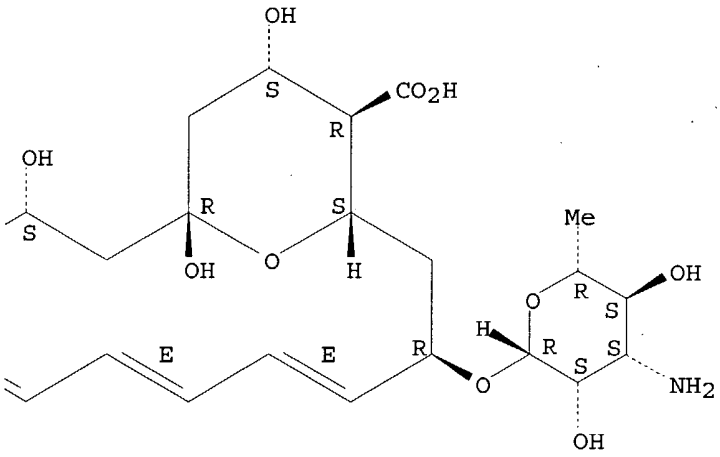
IT **1397-89-3**, Amphotericin B
RL: BIOL (Biological study)
(**liposomes** containing, manufacture of)
RN 1397-89-3 HCAPLUS
CN Amphotericin B (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

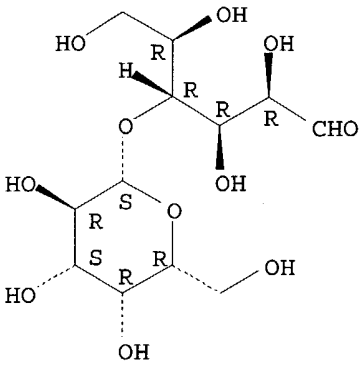


PAGE 1-B



IT **63-42-3P**, Lactose
RL: PREP (Preparation)
(stabilizer in manufacture of amphotericin B-containing **liposomes**)
RN 63-42-3 HCAPLUS
CN D-Glucose, 4-O-β-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L18 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:520887 HCAPLUS
DOCUMENT NUMBER: 111:120887
TITLE: Method of producing high aqueous volume multilamellar **vesicles**
INVENTOR(S): Wallach, Donald F. H.
PATENT ASSIGNEE(S): Micro-Pak, Inc., USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 10
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8806881	A1	19880922	WO 1988-US721	19880308
W: AU, BB, BG, BR, DK, FI, HU, JP, KP, KR, LK, MC, MG, MW, NO, RO, SD, SU				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
US 4855090	A	19890808	US 1987-78658	19870728
AU 8816836	A1	19881010	AU 1988-16836	19880308
AU 603447	B2	19901115		
EP 349593	A1	19900110	EP 1988-904011	19880308
EP 349593	B1	19911127		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 02503646	T2	19901101	JP 1988-503735	19880308
JP 06000193	B4	19940105		
AT 69723	E	19911215	AT 1988-904011	19880308
CA 1289420	A1	19910924	CA 1988-561288	19880311
CA 2062726	AA	19901227	CA 1990-2062726	19900613
WO 9100084	A1	19910110	WO 1990-US3339	19900613
W: AU, BR, CA, FI, HU, JP, NO, SU				
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
AU 9059471	A1	19910117	AU 1990-59471	19900613
US 5234767	A	19930810	US 1991-759732	19910912
US 5474848	A	19951212	US 1994-200351	19940203
US 5628936	A	19970513	US 1995-456283	19950531

PRIORITY APPLN. INFO.:			
	US 1987-25525	A	19870313
	US 1987-78658	A	19870728
	US 1987-124824	A2	19871124
	US 1988-157571	A2	19880303
	EP 1988-904011	A	19880308

WO 1988-US721	A	19880308
US 1989-371738	A	19890626
US 1989-410647	B1	19890921
US 1989-443516	A1	19891129
WO 1990-US3339	A	19900613
US 1991-683835	B1	19910411
US 1992-944696	B1	19920914
US 1993-5940	B1	19930119

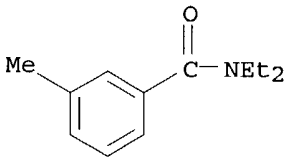
OTHER SOURCE(S): MARPAT 111:120887

AB The title **vesicles** are prepared by combining a lipophilic phase with an excess of aqueous phase, under high shear. The lipophilic phase is obtained by blending a polyoxyethylene alkyl ether or polyglycerol alkyl ether surfactant with a sterol and a charge-producing amphiphile, at a temperature above the m.p. of the surfactant. **Amphiphilic** or **hydrophilic** drugs and agrochems. may be encapsulated into the **vesicles.** A mixture of polyoxyethylene cetyl ether 0.696, **cholesterol** 0.073 and dicetyl phosphate 0.055g was blended at 40° into 10 mL 5 mM phosphate buffer (pH 7.4) containing 150 mM NaCl, to give multilamellar **vesicles.**

IT **134-62-3**
RL: BIOL (Biological study)
(lipid **vesicle** containing)

RN 134-62-3 HCAPLUS

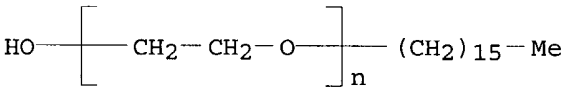
CN Benzamide, N,N-diethyl-3-methyl- (9CI) (CA INDEX NAME)



IT **9004-95-9**, Polyoxyethylene cetyl ether
RL: BIOL (Biological study)
(lipid **vesicles** containing steroids and)

RN 9004-95-9 HCAPLUS

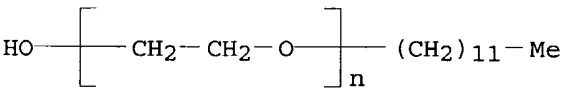
CN Poly(oxy-1,2-ethanediyl), α-hexadecyl-ω-hydroxy- (9CI) (CA INDEX NAME)



IT **9002-92-0**
RL: BIOL (Biological study)
(lipid **vesicles** containing sterols and charge-producing amphiphiles and)

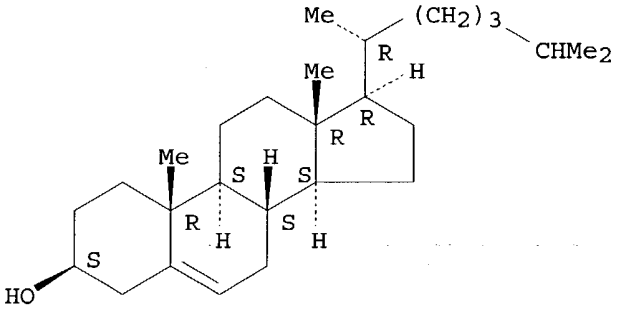
RN 9002-92-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-dodecyl-ω-hydroxy- (9CI) (CA INDEX NAME)

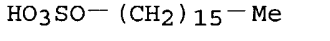


IT **57-88-5**, **Cholesterol**, biological studies
RL: BIOL (Biological study)
(lipid **vesicles** containing surfactants and charge-producing amphiphiles and)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

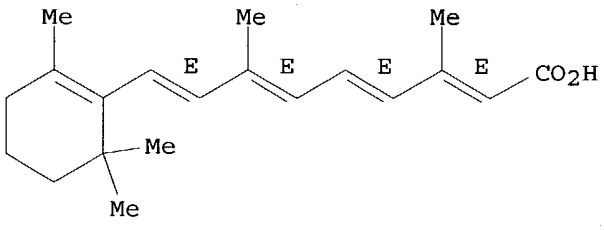


IT **143-02-2**, Cetyl sulfate **302-79-4**, Retinoic acid **2197-63-9**, Dicetyl phosphate
RL: BIOL (Biological study)
(lipid **vesicles** containing surfactants and sterols and)
RN 143-02-2 HCAPLUS
CN 1-Hexadecanol, hydrogen sulfate (8CI, 9CI) (CA INDEX NAME)

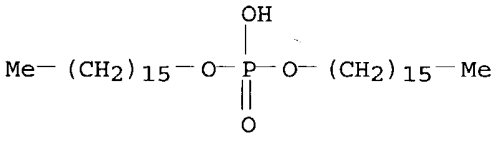


RN 302-79-4 HCAPLUS
CN Retinoic acid (6CI, 9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 2197-63-9 HCAPLUS
CN 1-Hexadecanol, hydrogen phosphate (8CI, 9CI) (CA INDEX NAME)



L18 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:75083 HCAPLUS
DOCUMENT NUMBER: 108:75083
TITLE: Membrane-spanning steroidal metalloporphyrins as site-selective catalysts in synthetic **vesicles**
AUTHOR(S): Groves, John T.; Neumann, Ronny
CORPORATE SOURCE: Dep. Chem., Princeton Univ., Princeton, NJ, 08544, USA
SOURCE: Journal of the American Chemical Society (1987), 109(16), 5045-7
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 108:75083
GI

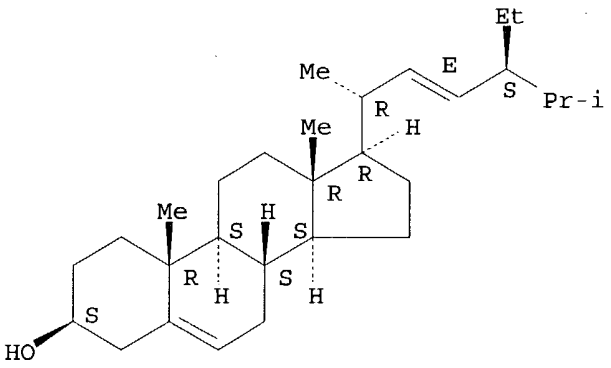
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The **amphiphilic** iron porphyrin I was prepared by amidating the aminophenylporphyrin. Intercalation of I into a dimyristoylphosphocholine or dipalmitoylphosphocholine phospholipid bilayer resulted in an assembly which was a regioselective catalytic oxidation system. Epoxidn. with PhIO of desmosterol and fucosterol gave exclusively side chain epoxidn. in moderate (30%) yields. Epoxidns. of polyunsatd. fatty acids, such as linoleic acid, gave epoxides of the more hydrophobic position in 2:1 ratio with the epoxides of the more **hydrophilic** position. Regioselectivity was a function of membrane rigidity. Addition of **cholesterol** increased the selectivity for epoxidn. at the hydrophobic terminus to 6.7:1.

IT **83-48-7**, Stigmasterol
RL: PROC (Process)
(attempted epoxidn. of, with iron tetrakis(cholenylamidophenyl)porphyrin catalyst)

RN 83-48-7 HCAPLUS
CN Stigmasta-5,22-dien-3-ol, (3β,22E)- (9CI) (CA INDEX NAME)

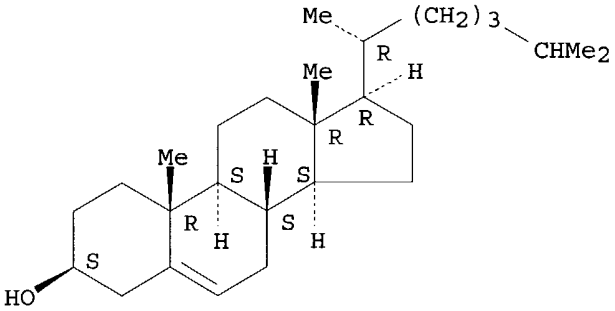
Absolute stereochemistry.
Double bond geometry as shown.



IT **57-88-5**, **Cholesterol**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(attempted oxidation of, with iron(tetrakischolenylamidophenyl)porphyrin)

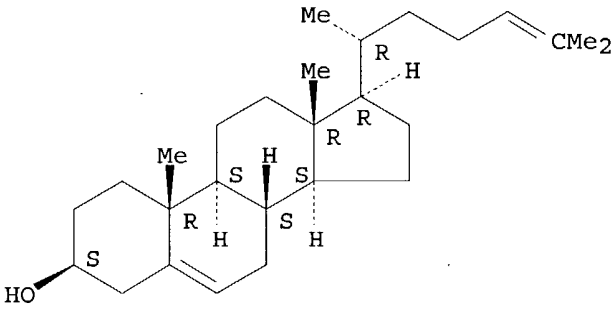
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



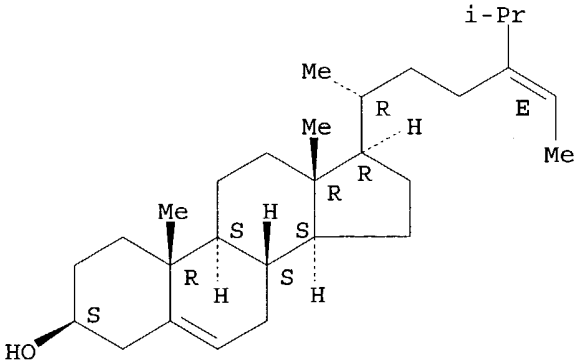
IT **313-04-2**, Desmosterol **17605-67-3**, Fucosterol
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with iron tetrakis(cholenylamidophenyl)porphyrin catalyst, regioselectivity in)
RN 313-04-2 HCAPLUS
CN Cholesta-5,24-dien-3-ol, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



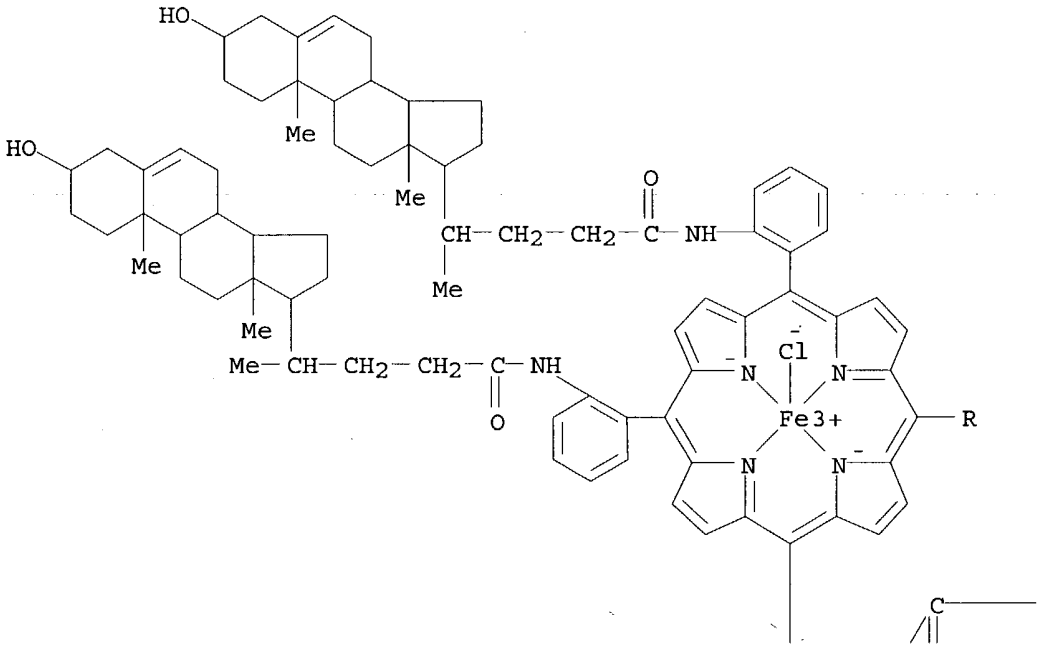
RN 17605-67-3 HCAPLUS
CN Stigmasta-5,24(28)-dien-3-ol, (3β,24E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

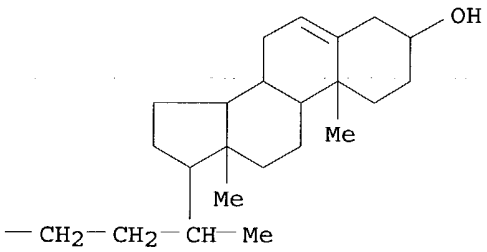


IT **109182-30-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and catalysis by, by double bond epoxidn.)
RN 109182-30-1 HCAPLUS
CN Iron, chloro[[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[3-hydroxycholest-5-en-24-amidato]](2-)-N21,N22,N23,N24]-, stereoisomer (9CI) (CA INDEX NAME)

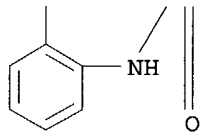
PAGE 1-A



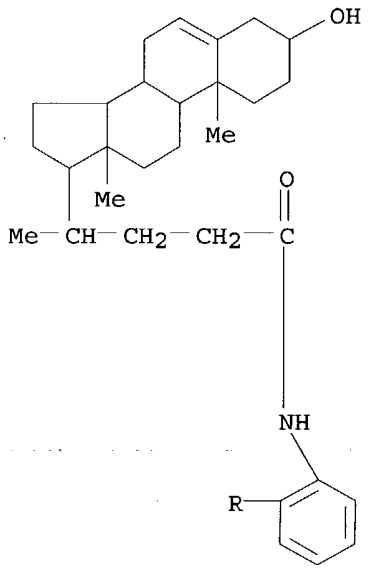
PAGE 1-B



PAGE 2-A

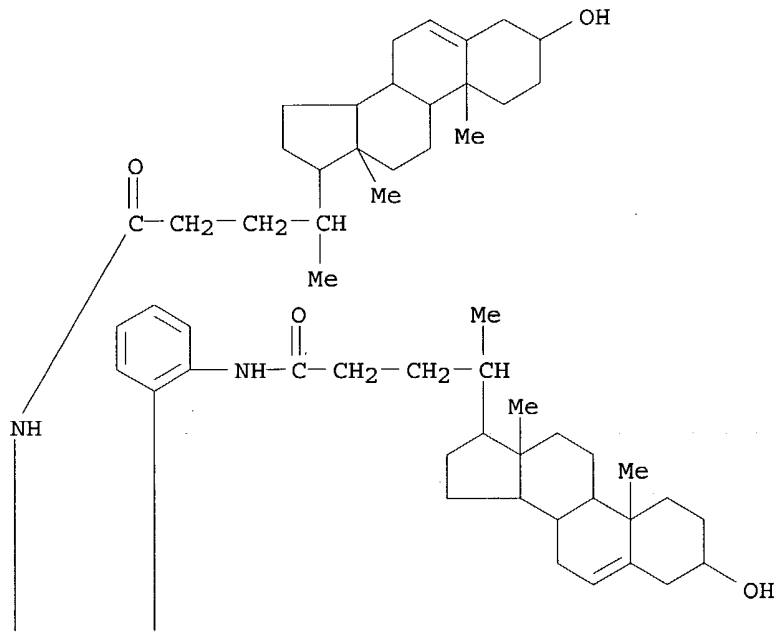


PAGE 3-A

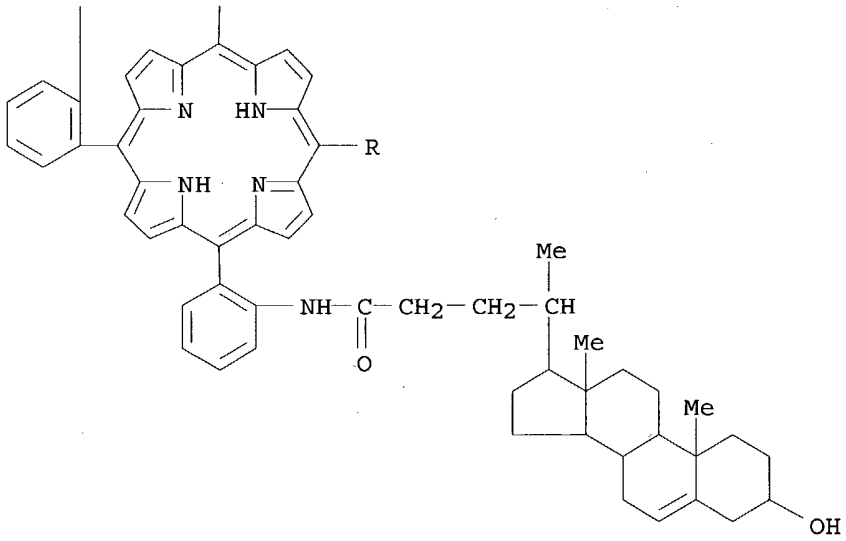


IT **109217-10-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and metalation of)
RN 109217-10-9 HCAPLUS
CN Chol-5-en-24-amide, N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[3-hydroxy-, stereoisomer (9CI) (CA INDEX NAME)

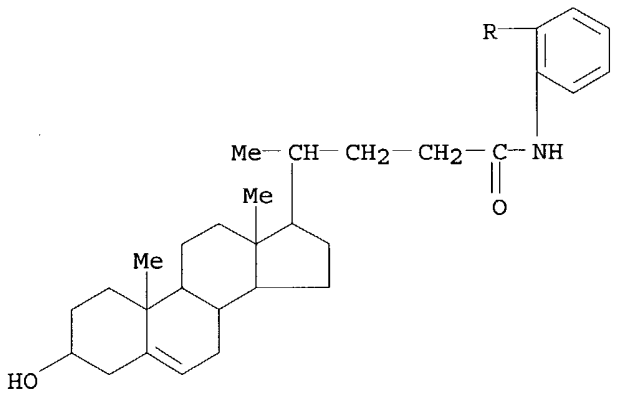
PAGE 1-A



PAGE 2-A

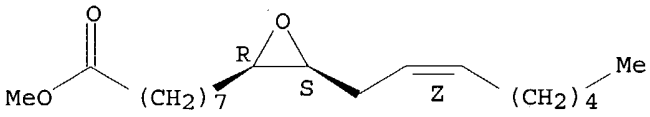


PAGE 3-A



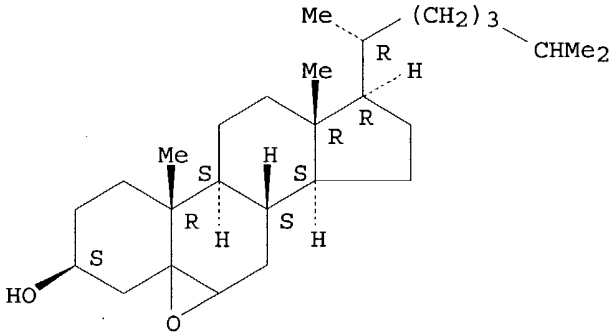
IT **6084-72-6P 55700-78-2P 61949-82-4P**
109217-11-0P 109217-12-1P 109217-14-3P
109281-36-9P 110658-06-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, iron porphyrin catalyst for)
RN 6084-72-6 HCAPLUS
CN Oxiraneoctanoic acid, 3-(2-octenyl)-, methyl ester, [2R-[2α,3α(Z)]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



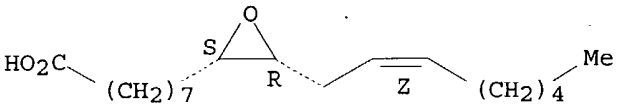
RN 55700-78-2 HCAPLUS
CN Cholestan-3-ol, 5,6-epoxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



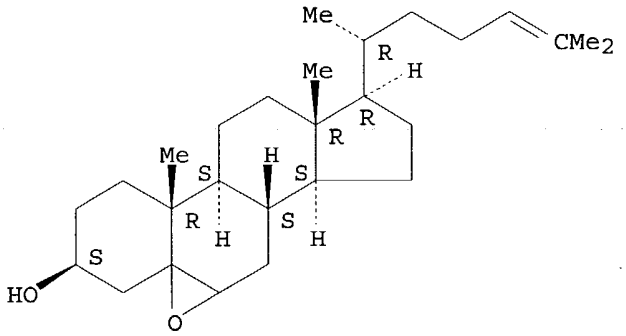
RN 61949-82-4 HCAPLUS
CN Oxiraneoctanoic acid, 3-(2Z)-2-octenyl-, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



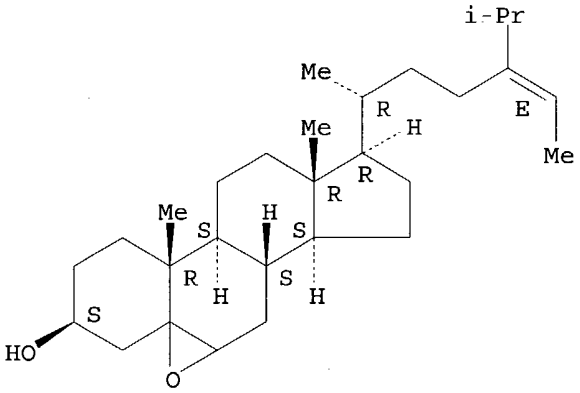
RN 109217-11-0 HCAPLUS
CN Cholest-24-en-3-ol, 5,6-epoxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



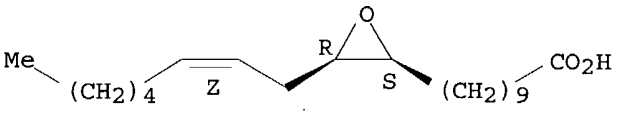
RN 109217-12-1 HCAPLUS
CN Stigmast-24(28)-en-3-ol, 5,6-epoxy-, (3β,24E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



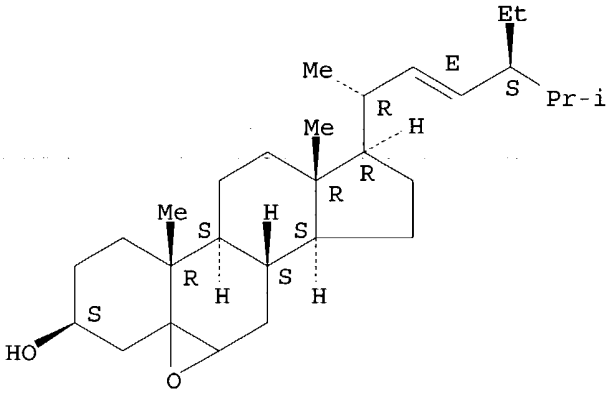
RN 109217-14-3 HCAPLUS
CN Oxiranedecanoic acid, 3-(2Z)-2-octenyl-, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



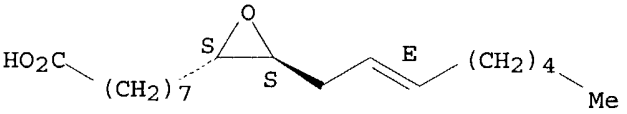
RN 109281-36-9 HCAPLUS
CN Stigmast-22-en-3-ol, 5,6-epoxy-, (3β,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

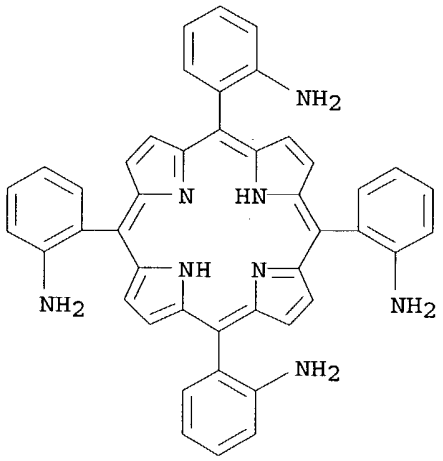


RN 110658-06-5 HCAPLUS
CN Oxiraneoctanoic acid, 3-(2-octenyl)-, [2α,3β(E)]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

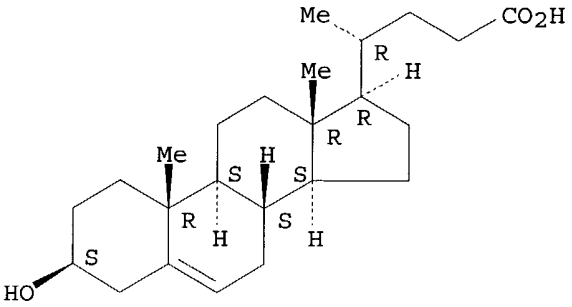


IT **68070-28-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxycholinic acid)
RN 68070-28-0 HCAPLUS
CN Benzenamine, 2,2',2'',2'''-(21H,23H-porphine-5,10,15,20-tetrayl)tetrakis-, stereoisomer (9CI) (CA INDEX NAME)



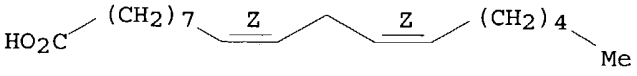
IT **5255-17-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tetrakis(aminophenyl)porphyrin)
RN 5255-17-4 HCAPLUS
CN Chol-5-en-24-oic acid, 3-hydroxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



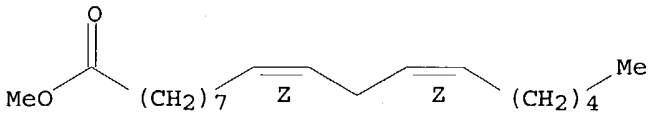
IT **60-33-3**, reactions **112-63-0 506-21-8**
5598-38-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(regioselective epoxidn. of, iron tetrakis(cholenylamidophenyl)porphyri
n catalyst for)
RN 60-33-3 HCAPLUS
CN 9,12-Octadecadienoic acid (9Z,12Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



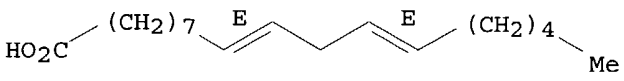
RN 112-63-0 HCAPLUS
CN 9,12-Octadecadienoic acid (9Z,12Z)-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



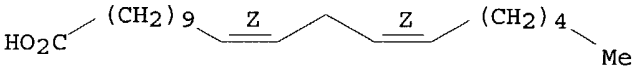
RN 506-21-8 HCAPLUS
CN 9,12-Octadecadienoic acid, (9E,12E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



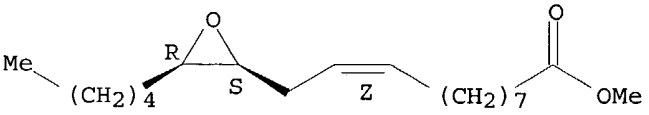
RN 5598-38-9 HCAPLUS
CN 11,14-Eicosadienoic acid, (11Z,14Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



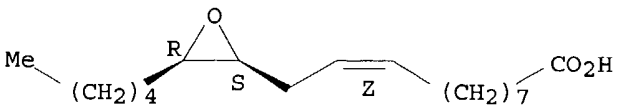
IT **10547-36-1P 17966-13-1P 72542-49-5P**
109217-13-2P 109281-35-8P 109281-37-0P
110658-05-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(regioselective preparation of, iron porphyrin catalyst for)
RN 10547-36-1 HCAPLUS
CN 9-Undecenoic acid, 11-[(2R,3S)-3-pentyloxiranyl]-, methyl ester, (9Z)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



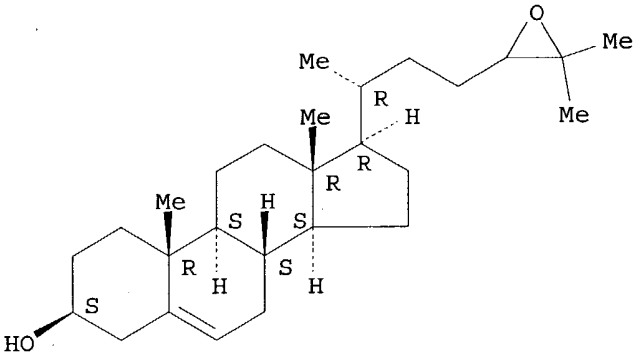
RN 17966-13-1 HCAPLUS
CN 9-Undecenoic acid, 11-[(2R,3S)-3-pentyloxiranyl]-, (9Z)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



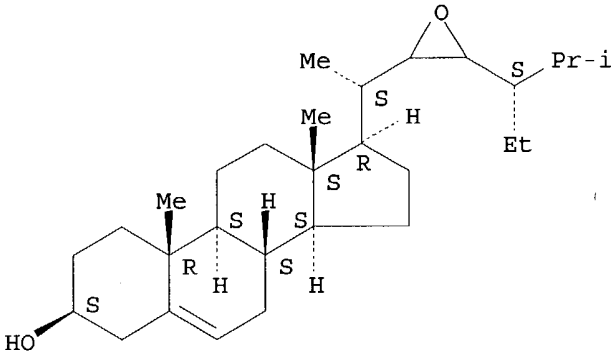
RN 72542-49-5 HCAPLUS
CN Cholest-5-en-3-ol, 24,25-epoxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



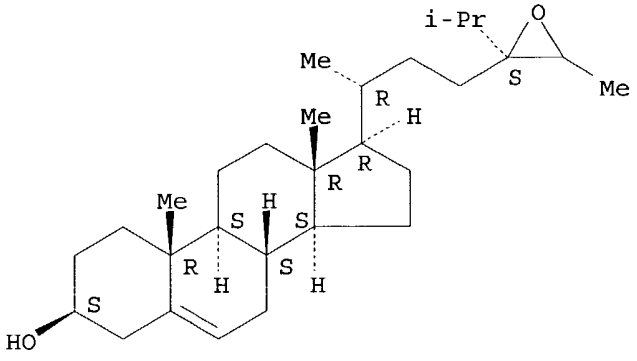
RN 109217-13-2 HCAPLUS
CN Stigmast-5-en-3-ol, 22,23-epoxy-, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 109281-35-8 HCAPLUS
CN Stigmast-5-en-3-ol, 24,28-epoxy-, (3β)- (9CI) (CA INDEX NAME)

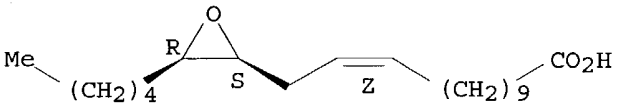
Absolute stereochemistry.



RN 109281-37-0 HCAPLUS
CN 11-Tridecenoic acid, 13-[(2R,3S)-3-pentyloxiranyl]-, (11Z)-rel- (9CI) (CA

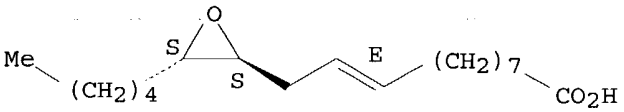
INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

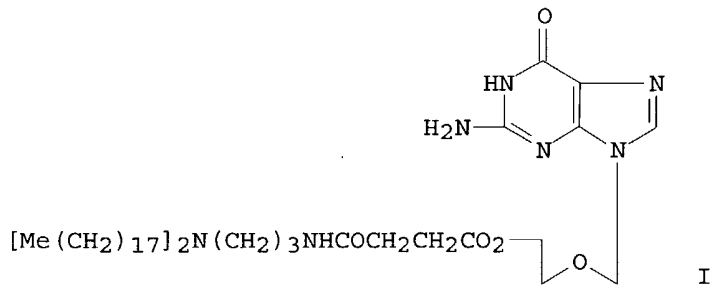


RN 110658-05-4 HCAPLUS
CN 9-Undecenoic acid, 11-[(2R,3R)-3-pentyloxiranyl]-, (9E)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



L18 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:422873 HCAPLUS
DOCUMENT NUMBER: 103:22873
TITLE: A nucleolipid containing the antiviral acycloguanosine as **hydrophilic** group - synthesis and **liposome** formation
AUTHOR(S): Rosemeyer, Helmut; Ahlers, Michael; Schmidt, Brigitta; Seela, Frank
CORPORATE SOURCE: Lab. Bjoorg. Chem., Univ. Warburgerstr, Paderborn, D-4790, Fed. Rep. Ger.
SOURCE: Angewandte Chemie (1985), 97(6), 500-2
CODEN: ANCEAD; ISSN: 0044-8249
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 103:22873
GI

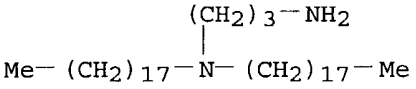


I

AB The acyclovir derivative I was prepared by esterifying acyclovir with succinic anhydride, converting the monosuccinate to its active ester with

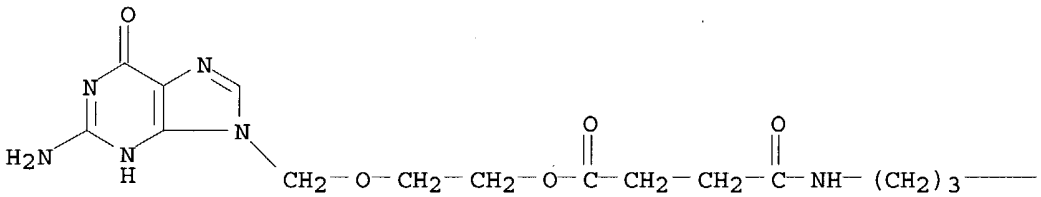
N-hydroxysuccinimide and heating the latter with [Me(CH2)17]2N(CH2)3NH2. I formed stable **liposomes** with **cholesterol** or dicetyl phosphate.

IT **15337-59-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(amidation by, of acyclovir succinate active ester)
RN 15337-59-4 HCAPLUS
CN 1,3-Propanediamine, N,N-dioctadecyl- (8CI, 9CI) (CA INDEX NAME)

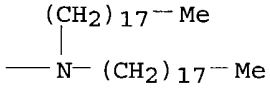


IT **96328-28-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and **amphiphilic** properties of)
RN 96328-28-8 HCAPLUS
CN Butanoic acid, 4-[[3-(dioctadecylamino)propyl]amino]-4-oxo-, 2-[(2-amino-1,6-dihydro-6-oxo-9H-purin-9-yl)methoxy]ethyl ester (9CI) (CA INDEX NAME)

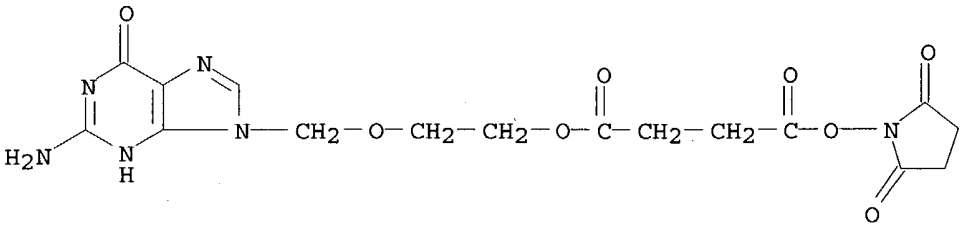
PAGE 1-A



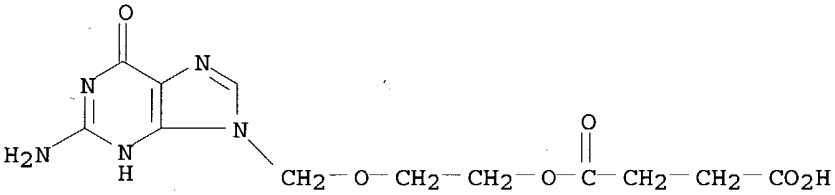
PAGE 1-B



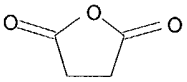
IT **96328-27-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with dioctadecylpropanediamine)
RN 96328-27-7 HCAPLUS
CN Butanoic acid, 4-[(2,5-dioxo-1-pyrrolidinyl)oxy]-4-oxo-, 2-[(2-amino-1,6-dihydro-6-oxo-9H-purin-9-yl)methoxy]ethyl ester (9CI) (CA INDEX NAME)



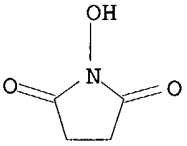
IT **59298-42-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with N-hydroxysuccinimide)
RN 59298-42-9 HCAPLUS
CN Butanedioic acid, mono[2-[(2-amino-1,6-dihydro-6-oxo-9H-purin-9-yl)methoxy]ethyl] ester (9CI) (CA INDEX NAME)



IT **108-30-5**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acyclovir)
RN 108-30-5 HCAPLUS
CN 2,5-Furandione, dihydro- (9CI) (CA INDEX NAME)

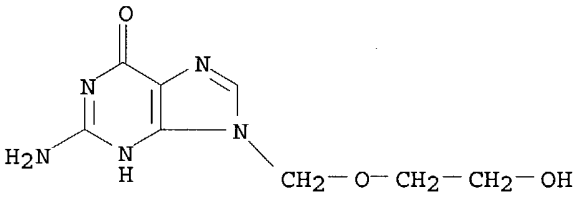


IT **6066-82-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acylovir succinate)
RN 6066-82-6 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



IT **59277-89-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with succinic anhydride)
RN 59277-89-3 HCAPLUS
CN 6H-Purin-6-one, 2-amino-1,9-dihydro-9-[(2-hydroxyethoxy)methyl]- (9CI)

(CA INDEX NAME)



```
=> d que stat l18
L8        115322 SEA FILE=HCAPLUS ABB=ON  ?LIPOSOME? OR ?VESICLE?
L9          2140 SEA FILE=HCAPLUS ABB=ON  L8 AND ?HYDROPHIL?
L10            1 SEA FILE=HCAPLUS ABB=ON  L9 AND ?VINYL?(W)?ETHER?(W)?LIPID?
L11          218 SEA FILE=HCAPLUS ABB=ON  L9 AND ?AMPHIPHILIC?
L12          125 SEA FILE=HCAPLUS ABB=ON  L11 AND ?HYDROPHOB?
L13            1 SEA FILE=HCAPLUS ABB=ON  L12 AND ?VINYL?(W)?ETHER?
L14           31 SEA FILE=HCAPLUS ABB=ON  L11 AND (?CHOLESTEROL? OR ?SPHINGOSINE
                  ?)
L15          288 SEA FILE=REGISTRY ABB=ON  (57-88-5/BI OR 25322-68-3/BI OR
                  14464-31-4/BI OR 23214-92-8/BI OR 7732-18-5/BI OR 124661-64-9/B
                  I OR 1256-86-6/BI OR 4537-76-2/BI OR 61361-72-6/BI OR 63-89-8/B
                  I OR 9005-00-9/BI OR 103596-99-2/BI OR 124-20-9/BI OR 124-30-1/
                  BI OR 12441-09-7/BI OR 126-18-1/BI OR 126-19-2/BI OR 127512-29-
                  2/BI OR 1323-83-7/BI OR 13463-41-7/BI OR 137056-72-5/BI OR
                  1397-89-3/BI OR 142-47-2/BI OR 144189-73-1/BI OR 1449-61-2/BI
                  OR 145-13-1/BI OR 14504-94-0/BI OR 1461-15-0/BI OR 152390-17-5/
                  BI OR 16690-92-9/BI OR 188750-82-5/BI OR 23983-43-9/BI OR
                  2462-63-7/BI OR 2487-48-1/BI OR 25618-55-7/BI OR 26266-57-9/BI
                  OR 27638-00-2/BI OR 28901-70-4/BI OR 33069-62-4/BI OR 363139-74
                  -6/BI OR 3700-67-2/BI OR 37758-47-7/BI OR 38000-06-5/BI OR
                  387-79-1/BI OR 39663-17-7/BI OR 4358-16-1/BI OR 4537-77-3/BI
                  OR 4537-78-4/BI OR 467-55-0/BI OR 494796-45-1/BI OR 511-97-7/BI
                   OR 512-04-9/BI OR 512-06-1/BI OR 53-00-9/BI OR 53-43-0/BI OR
                  53-86-1/BI OR 566-19-8/BI OR 57-50-1/BI OR 58-95-7/BI OR
                  63-05-8/BI OR 63119-59-5/BI OR 646-06-0/BI OR 651-48-9/BI OR
                  6640-03-5/BI OR 71-44-3/BI OR 7642-68-4/BI OR 77-60-1/BI OR
                  83-48-7/BI OR 853-23-6/BI OR 9002-92-0/BI OR 9004-95-9/BI OR
                  9005-63-4/BI OR 9050-36-6/BI OR 94-13-3/BI OR 99-76-3/BI OR
                  994-36-5/BI OR 103298-65-3/BI OR 10547-36-1/BI OR 106-89-8/BI
                  OR 107-41-5/BI OR 107-88-0/BI OR 108-01-0/BI OR 108-30-5/BI OR
                  108-31-6/BI OR 109182-30-1/BI OR 109217-10-9/BI OR 109217-11-0/
                  BI OR 109217-12-1/BI OR 109217-13-2/BI OR 109217-14-3/BI OR
                  109281-35-8/BI OR 109281-36-9/BI OR 109281-37-0/BI OR 110-15-6/
                  BI OR 110-63-4/BI OR 11056-06-7/BI OR 110658-05-4/BI OR
                  110658-06-5/BI OR 111-29-5/BI OR 112-63-0/BI OR 112-67-4/BI OR
                  112-76-5/BI OR 112-77-6/BI OR 112-80-1/BI OR 114977-28-5/BI OR
                  1182-65-6/BI OR 124011-52-5/BI OR 124050-77-7/BI OR 127829-97-4
                  /BI OR 134-62-3/BI OR
L16           30 SEA FILE=HCAPLUS ABB=ON  L14 AND L15
L17            1 SEA FILE=HCAPLUS ABB=ON  L16 AND ?CLEAV?
L18           30 SEA FILE=HCAPLUS ABB=ON  L16 OR L17 OR L10 OR L13
```

Test search

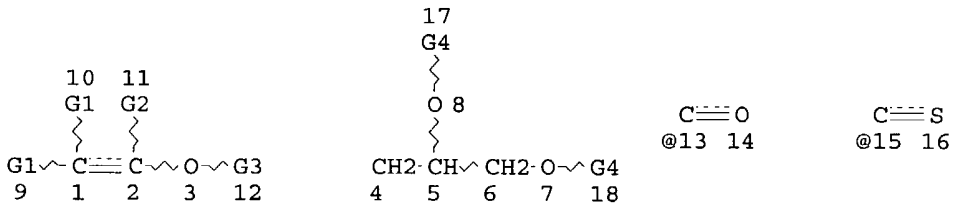
Structure search


```
=> d que stat l46
L19          659 SEA FILE=REGISTRY ABB=ON  (57-88-5/BI OR 177942-21-1/BI OR
                 25322-68-3/BI OR 177942-18-6/BI OR 177942-20-0/BI OR 18656-38-7
                 /BI OR 63-89-8/BI OR 177942-17-5/BI OR 177942-19-7/BI OR
                 2644-64-6/BI OR 7732-18-5/BI OR 137354-65-5/BI OR 14464-31-4/BI
                  OR 112-67-4/BI OR 1461-15-0/BI OR 151-21-3/BI OR 18194-24-6/BI
                  OR 23214-92-8/BI OR 4537-76-2/BI OR 4537-77-3/BI OR 56-87-1/BI
                  OR 57-10-3/BI OR 61-90-5/BI OR 61361-72-6/BI OR 72093-21-1/BI
                 OR 7782-44-7/BI OR 107082-95-1/BI OR 1071-83-6/BI OR 108-31-6/B
                 I OR 112-76-5/BI OR 121691-77-8/BI OR 121691-79-0/BI OR
                 121691-80-3/BI OR 124-20-9/BI OR 124661-64-9/BI OR 127512-29-2/
                 BI OR 1951-25-3/BI OR 227099-99-2/BI OR 2462-63-7/BI OR
                 25104-18-1/BI OR 278619-68-4/BI OR 278619-69-5/BI OR 278619-70-
                 8/BI OR 278619-71-9/BI OR 278619-72-0/BI OR 278619-73-1/BI OR
                 33069-62-4/BI OR 3700-67-2/BI OR 37475-32-4/BI OR 37758-47-7/BI
                  OR 38000-06-5/BI OR 4235-95-4/BI OR 461-78-9/BI OR 50-49-7/BI
                 OR 50-53-3/BI OR 50-99-7/BI OR 525-66-6/BI OR 53-86-1/BI OR
                 54-05-7/BI OR 56-75-7/BI OR 57-11-4/BI OR 60-87-7/BI OR
                 643767-05-9/BI OR 643767-06-0/BI OR 71-44-3/BI OR 72177-62-9/BI
                  OR 7440-70-2/BI OR 74838-20-3/BI OR 74838-21-4/BI OR 9003-39-8
                 /BI OR 9003-49-0/BI OR 9003-53-6/BI OR 9015-71-8/BI OR
                 100-46-9/BI OR 10041-19-7/BI OR 102394-66-1/BI OR 102413-71-8/B
                 I OR 103298-65-3/BI OR 10547-36-1/BI OR 106-98-9/BI OR
                 106392-12-5/BI OR 1066-45-1/BI OR 1067-14-7/BI OR 107-13-1/BI
                 OR 1074-82-4/BI OR 108-55-4/BI OR 109-97-7/BI OR 109182-30-1/BI
                  OR 109217-10-9/BI OR 109217-11-0/BI OR 109217-12-1/BI OR
                 109217-13-2/BI OR 109217-14-3/BI OR 109281-35-8/BI OR 109281-36
                 -9/BI OR 109281-37-0/BI OR 110-60-1/BI OR 110-63-4/BI OR
                 11056-06-7/BI OR 110658-05-4/BI OR 110658-06-5/BI OR 110900-43-
                 1/BI OR 111-42-2/BI OR 1119-94-4/BI OR 1119-97-7/BI OR
                 112-35-6/BI OR 112-63-0/BI OR 112-77-6/BI O
L20              STR
```

```
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   3

STEREO ATTRIBUTES: NONE
L22           10 SEA FILE=REGISTRY SUB=L19 SSS FUL L20
L23            4 SEA FILE=HCAPLUS ABB=ON  L22
L41              STR
```



```
VAR G1=H/C
VAR G2=H/C
```

VAR G3=H/C
VAR G4=13/15
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L43	37	SEA FILE=REGISTRY SSS FUL L41
L44	22	SEA FILE=HCAPLUS ABB=ON L43
L45	26	SEA FILE=HCAPLUS ABB=ON L44 OR L23
L46	5	SEA FILE=HCAPLUS ABB=ON L45 AND (?LIPOSOME? OR ?VESICLE?)

=> d ibib abs hitstr l46 1-5

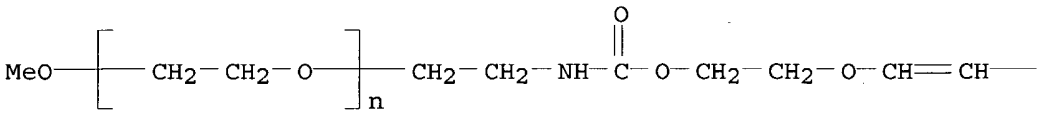
L46 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:640802 HCAPLUS
DOCUMENT NUMBER: 140:309211
TITLE: Acid-triggered release via dePEGylation of DOPE **liposomes** containing acid-labile vinyl ether PEG-lipids
AUTHOR(S): Shin, Junhwa; Shum, Pochi; Thompson, David H.
CORPORATE SOURCE: Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA
SOURCE: Journal of Controlled Release (2003), 91(1-2), 187-200
CODEN: JCREEC; ISSN: 0168-3659
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Four structurally related, acid-labile polyethylene glycol (PEG) conjugated vinyl ether lipids have been synthesized and used at low molar ratios to stabilize the nonlamellar, highly fusogenic lipid, dioleoylphosphatidyl ethanolamine, as unilamellar **liposomes.** Acid-catalyzed hydrolysis of the vinyl ether bond destabilized these **liposomes** by removal of the sterically-stabilizing PEG layer, thereby promoting contents release on the hours timescale at pH<5. Structure-property correlations of these compds. suggested that single vinyl ether linkages between the PEG headgroup and the lipid backbone produce faster leakage rates. These studies also suggested that the presence of a slight neg. charge at the membrane surface can accelerate the acid-catalyzed leakage process.

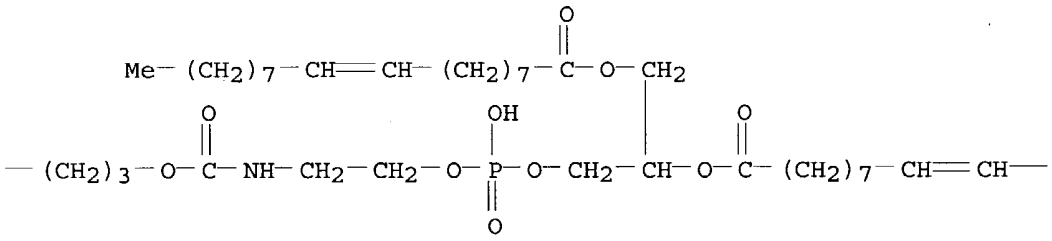
IT **676478-02-7P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(acid-triggered release via dePEGylation of DOPE **liposomes** containing acid-labile vinyl ether PEG-lipids)

RN 676478-02-7 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[(9Z,34Z)-20-hydroxy-20-oxido-4,15,26-trioxo-23-[[(9Z)-1-oxo-9-octadecenyl]oxy]-5,8,14,19,21,25-hexaoxa-3,16-diaza-20-phosphatritetraconta-9,34-dien-1-yl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



PAGE 1-C

— $(CH_2)_7$ — Me

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:524302 HCAPLUS
DOCUMENT NUMBER: 139:209637
TITLE: Acid-Triggered Release from Sterically Stabilized Fusogenic **Liposomes** via a Hydrolytic DePEGylation Strategy
AUTHOR(S): Boomer, Jeremy A.; Inerowicz, Halina D.; Zhang, Zhi-Yi; Bergstrand, Nill; Edwards, Katarina; Kim, Jong-Mok; Thompson, David H.
CORPORATE SOURCE: Department of Chemistry, Purdue University, West Lafayette, IN, 47907-1393, USA
SOURCE: Langmuir (2003), 19(16), 6408-6415
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel acid-labile poly(ethylene glycol) (PEG)-conjugated lipid, (R)-1,2-di-O-(1'Z,9'Z-octadecadienyl)-glyceryl-3-(ω-methoxy-poly(ethylene glycolate), MW5000) (BVEP), a neutral PEG-derivatized analog of diplasmenylcholine, has been used at low molar ratios to disperse the nonlamellar, fusogenic lipid 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (DOPE) as unilamellar **liposomes.** It was anticipated that acid-catalyzed hydrolysis of the vinyl ether linkages would destabilize BVEP/DOPE **liposomes** by removal of the water-soluble, sterically stabilizing PEG layer, thereby promoting contents release and membrane-membrane fusion. This paper describes the hydrolysis rates, contents release rates, and fusion kinetics of BVEP-stabilized DOPE **liposomes** at 1:99, 3:97, and 5:95 molar ratios of BVEP/DOPE. Calcein leakage kinetics indicate that 3:97 BVEP/DOPE **liposomes** offer the best stability at pH 7.4 while retaining favorable leakage properties at pH 4.5 (t50%release ≈ 4 h). N-Rhodamine

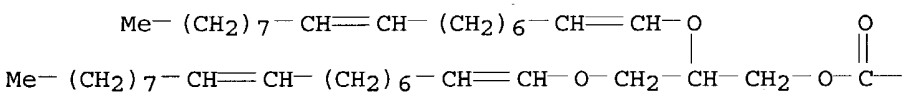
phosphatidylethanolamine/N-nitrobenzoxadiazole phosphatidylethanolamine lipid mixing assays show that membrane fusion occurs on a much slower time scale than leakage in these systems, with .apprx.12% lipid mixing occurring over a 24 h time period at pH 2.0. No appreciable membrane fusion occurred in these **liposomes** at either pH 7.4 or 4.5 when monitored for up to 3 days. 31P NMR spectra at pH 7.4 contain a single isotropic line shape, consistent with the presence of large **liposomes.** The 31P NMR line shape did not change significantly even after long exposure times at pH 4.0; however, Mn2+ addition expts. with acid-treated samples produced line-broadened spectra, indicating that all the phosphorus sites were continuous with the bulk water phase. Time-dependent cryogenic TEM expts. indicate that extensive **liposome** collapse to give small dense aggregates occurs over a 1-4 h period when 3:97 BVEP/DOPE **liposomes** are acidified to pH 4.5. Taken together, these results suggest that acid-catalyzed hydrolysis of BVEP/DOPE **liposomes** does result in dePEGylative triggering; however, the primary outcome of this cleavage process is contents leakage and **liposome** collapse to give <100 nm particles that are presumed to be inverted hexagonal phase structures, with membrane lipid mixing occurring on a kinetically slower time scale.

IT **237056-02-9**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(fusogenic lipid BVEP/DOPE can stabilize DOPE lamellar phase in **liposome** membrane)

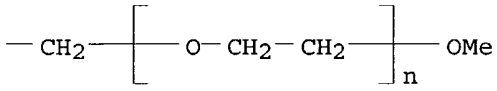
RN 237056-02-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-[2-[(2R)-2,3-bis[(1Z,9Z)-1,9-octadecadienyloxy]propoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:499291 HCAPLUS
DOCUMENT NUMBER: 140:169365
TITLE: Interactions between pH-sensitive **liposomes** and model membranes
AUTHOR(S): Bergstrand, Nill; Arfvidsson, Maria C.; Kim, Jong-Mok; Thompson, David H.; Edwards, Katarina
CORPORATE SOURCE: Department of Physical Chemistry, Uppsala University, Uppsala, S-751 23, Swed.
SOURCE: Biophysical Chemistry (2003), 104(1), 361-379
CODEN: BICIAZ; ISSN: 0301-4622

PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

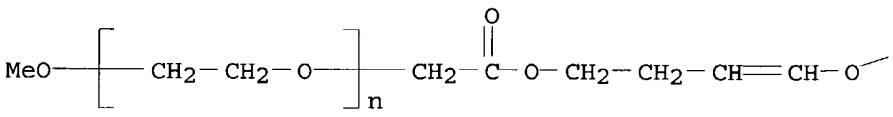
AB The structure and dynamics of two different pH-sensitive **liposome** systems were investigated by means of cryotransmission electron microscopy and different photophys. techniques. Both systems consisted of dioleoylphosphatidylethanolamine (DOPE) and contained either oleic acid (OA) or a novel acid-labile polyethylene glycol-conjugated lipid (DHCho-MPEG5000) as stabilizer. Proton induced leakage, lipid mixing and structural changes were studied in the absence and presence of EPC **liposomes**, as well as in the presence of **liposomes** designed to model the endosome membrane. Neither DHCho-MPEG5000- nor OA-stabilized **liposomes** showed any tendency for fusion with pure EPC **liposomes** or endosome-like **liposomes** composed of EPC/DOPE/SM/Cho (40/20/6/34 mol.). Our investigations showed, however, that incorporation of lipids from the pH-sensitive **liposomes** into the endosome membrane may lead to increased permeability and formation of non-lamellar structures. Taken together the results suggest that the observed ability of DOPE-containing **liposomes** to mediate cytoplasmic delivery of hydrophilic mols. cannot be explained by a mechanism based on a direct, and non-leaky, fusion between the **liposome** and endosome membranes. A mechanism involving destabilization of the endosome membrane due to incorporation of DOPE, seems more plausible.

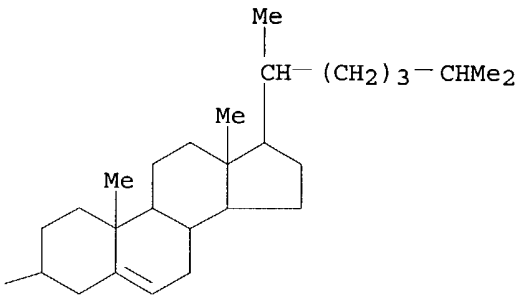
IT **321674-35-5**
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(interactions between pH-sensitive **liposomes** and model membranes)

RN 321674-35-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-[2-[(3Z)-4-[(3β)-cholest-5-en-3-yloxy]butoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A





REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:416743 HCAPLUS
DOCUMENT NUMBER: 135:24693
TITLE: Radiation-sensitive **liposomes** containing polymerizable lipids for drug delivery
INVENTOR(S): O'Brien, David F.; McGovern, Kathy A.; Bondurant, Bruce; Sutherland, Robert M.
PATENT ASSIGNEE(S): University of Arizona, Board of Regents, USA
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001039744	A2	20010607	WO 2000-US32902	20001130
WO 2001039744	A3	20020124		
W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002064554	A1	20020530	US 2000-728716	20001130
EP 1233752	A2	20020828	EP 2000-988017	20001130
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003515550	T2	20030507	JP 2001-541477	20001130
PRIORITY APPLN. INFO.:			US 1999-168100P P	19991130
			WO 2000-US32902 W	20001130

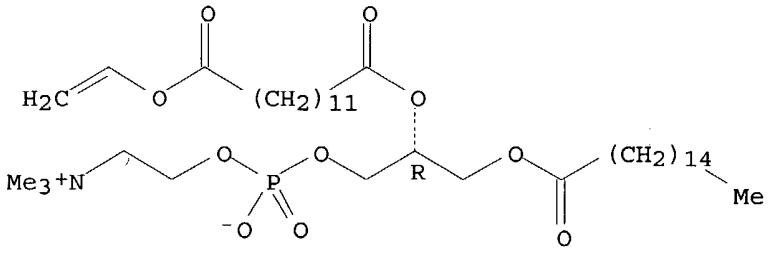
AB The present invention relates to a radiation sensitive **liposome**, and the use of this **liposome** as carrier for therapeutic and diagnostic agent(s). In particular, the invention encompasses a liposomal delivery system, comprising a stable **liposome**-forming lipid and a polymerizable colipid, a fraction of which polymerizable colipid polymerizes upon exposure to ionizing radiation, thereby destabilizing the

liposomal membrane. Destabilization of **liposomes** allows for leakage of liposomal contents. The present invention further contemplates methods of diagnosing and treating conditions and diseases that are responsive to **liposome**-encapsulated or associated agents. Thus, **liposomes** were prepared from PEG 2000-dioleoylphosphatidylethanolamine, cholesterol, dioleoylphosphatidylcholine, and bissorbyl phosphatidylcholine (15:40:20:30). Significant release was observed at ionizing radiation doses of as low as 250 rads. Increasing release was observed for a given dose with increasing time. Increasing release was also observed with increasing doses up through 2500 rads.

IT **343307-61-9 343307-62-0**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(radiation-sensitive **liposomes** containing polymerizable lipids for drug delivery)

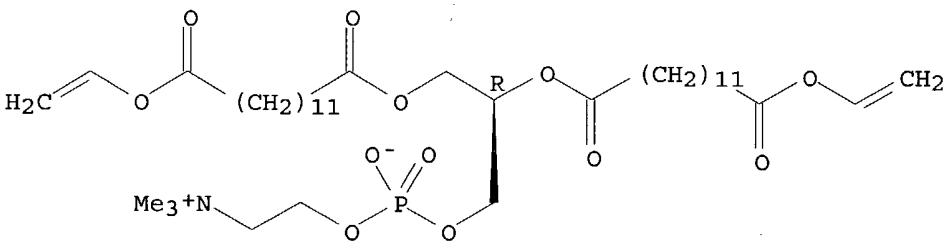
RN 343307-61-9 HCAPLUS
CN 3,5,8,22-Tetraoxa-4-phosphatetracos-23-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-9,21-dioxo-7-[[(1-oxohexadecyl)oxy]methyl]-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 343307-62-0 HCAPLUS
CN 3,5,9,23-Tetraoxa-4-phosphapentacos-24-en-1-aminium, 7-[[13-(ethenyloxy)-1,13-dioxotridecyl]oxy]-4-hydroxy-N,N,N-trimethyl-10,22-dioxo-, inner salt, 4-oxide, (7R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L46 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:63802 HCAPLUS
DOCUMENT NUMBER: 134:136683
TITLE: Vinyl ether lipids with cleavable hydrophilic headgroups
INVENTOR(S): Thompson, David H.; Boomer, Jeremy A.; Haynes, Robert
PATENT ASSIGNEE(S): Purdue Research Foundation, USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001005375	A1	20010125	WO 2000-US19430	20000717
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1202714	A1	20020508	EP 2000-947445	20000717
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.: US 1999-144301P P 19990716
US 1999-146552P P 19990730
WO 2000-US19430 W 20000717

OTHER SOURCE(S): MARPAT 134:136683

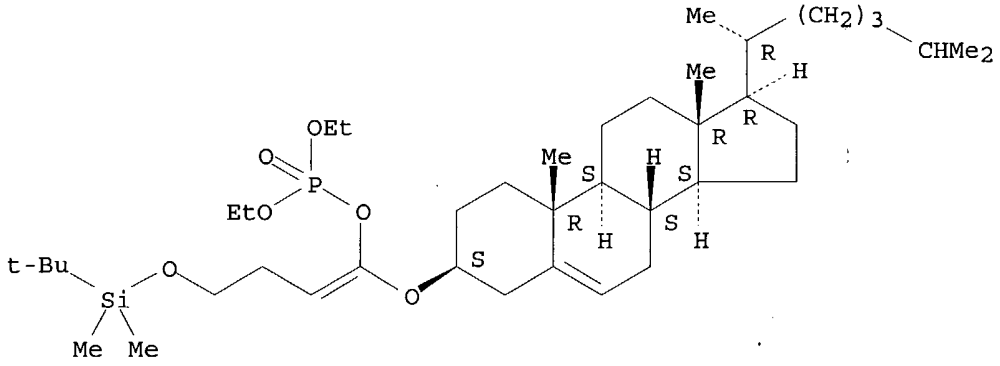
AB A novel amphiphilic lipid compound having a cleavable, vinyl ether linked hydrophilic headgroup is described. Also described are **liposomes** containing the vinyl ether lipid compound, which may be triggered to release their contents and/or permeabilize or fuse with target lipid membranes. The cleavable vinyl ether linkage allows the hydrophilic headgroup to be dissociated from the hydrophobic tail group(s) of the lipid compound to facilitate phase transitions in the lipid bilayer. Thus, 4-O-cholesteryl-(3Z-buten-1yl)-polyethylene glycolate (I) was prepared by the reaction of cholestoxy-3Z-buten-1-ol with M-PEG-acid. Pharmaceutical **liposomes** comprising 1,2-dioleoyl-sn-glycerophosphoethanolamine:I (98:2) and calcein were prepared Calcein release at pH = 4.5 and 7.4 in the presence and absence of of egg phosphatidylcholine was studied.

IT **321674-32-2P 321674-33-3P 321674-34-4P**
321674-38-8P 321674-39-9P 321674-40-2P
321674-42-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(vinyl ether lipids with cleavable hydrophilic headgroups)

RN 321674-32-2 HCAPLUS

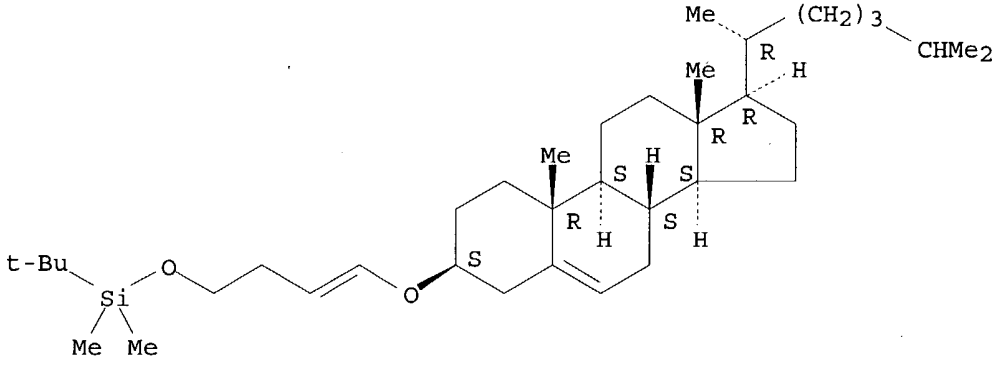
CN Phosphoric acid, 1-[(3β)-cholest-5-en-3-yloxy]-4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-1-butenyl diethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



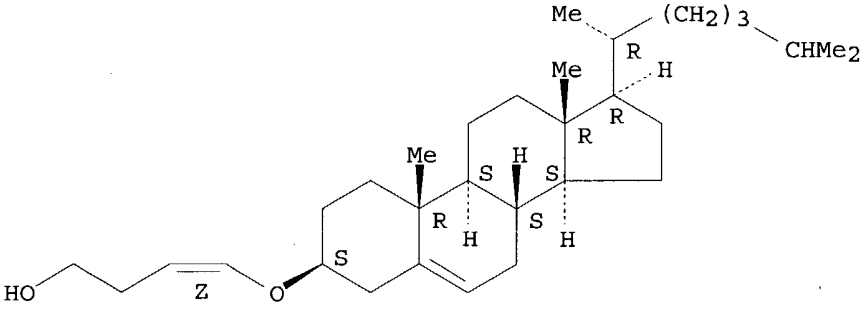
RN 321674-33-3 HCAPLUS
CN Silane, [[4-[(3β)-cholest-5-en-3-yloxy]-3-butenyl]oxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



RN 321674-34-4 HCAPLUS
CN 3-Buten-1-ol, 4-[(3β)-cholest-5-en-3-yloxy]-, (3Z)- (9CI) (CA INDEX NAME)

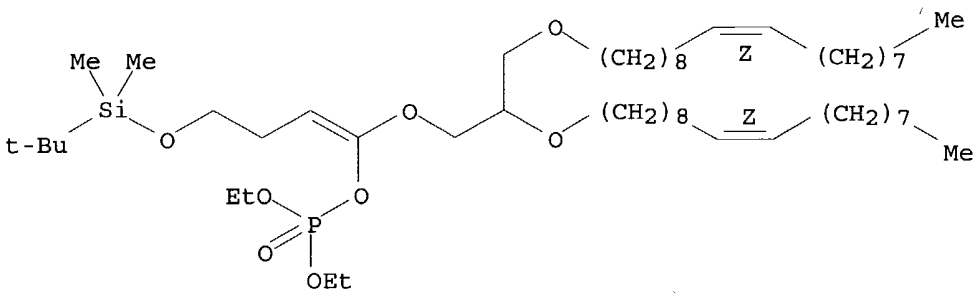
Absolute stereochemistry.
Double bond geometry as shown.



RN 321674-38-8 HCAPLUS
CN Phosphoric acid, 1-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-4-[[(1,1-

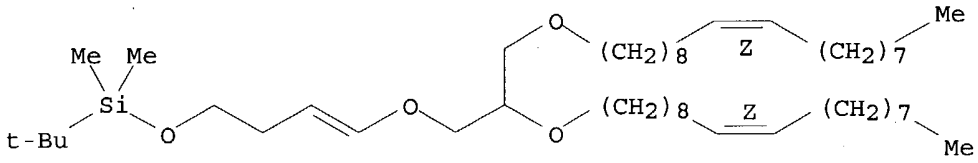
dimethylethyl)dimethylsilyl]oxy]-1-butenyl diethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



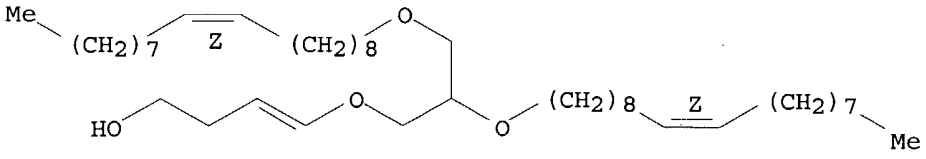
RN 321674-39-9 HCAPLUS
CN 4,9,13-Trioxa-3-silahentriaconta-7,22-diene, 2,2,3,3-tetramethyl-11-[(9Z)-9-octadecenyloxy]-, (22Z)- (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



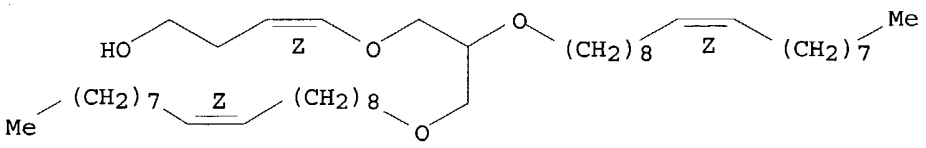
RN 321674-40-2 HCAPLUS
CN 3-Buten-1-ol, 4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



RN 321674-42-4 HCAPLUS
CN 3-Buten-1-ol, 4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-, (3Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

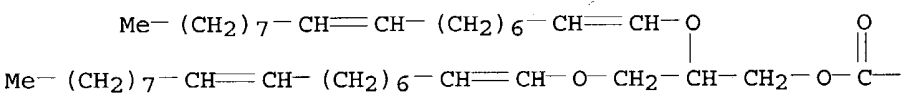


IT **237056-02-9P 321674-35-5P 321674-41-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use);

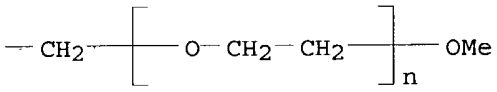
BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(vinyl ether lipids with cleavable hydrophilic headgroups)

RN 237056-02-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(2R)-2,3-bis[(1Z,9Z)-1,9-octadecadienyloxy]propoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A

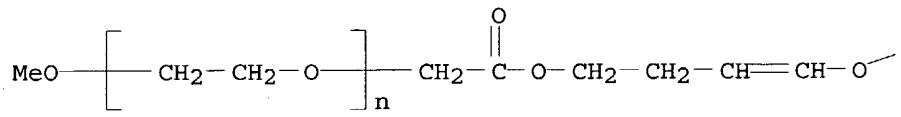


PAGE 1-B

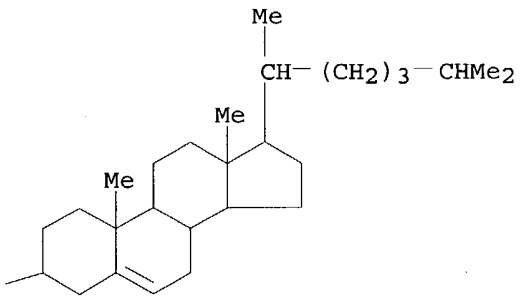


RN 321674-35-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(3Z)-4-[(3β)-cholest-5-en-3-yloxy]butoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A

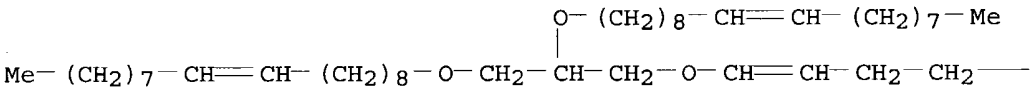


PAGE 1-B

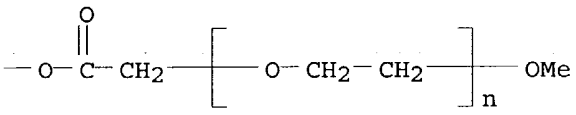


RN 321674-41-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[(3Z)-4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-3-butenyl]oxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> □

=> d ibib abs hitstr l30 1-5

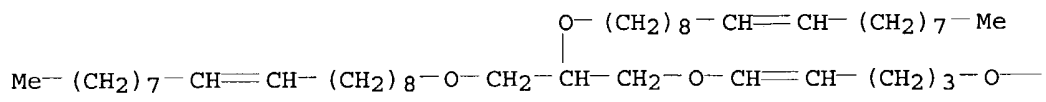
L30 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:640802 HCAPLUS
DOCUMENT NUMBER: 140:309211
TITLE: Acid-triggered release via dePEGylation of DOPE liposomes containing acid-labile vinyl ether PEG-lipids
AUTHOR(S): Shin, Junhwa; Shum, Pochi; Thompson, David H.
CORPORATE SOURCE: Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA
SOURCE: Journal of Controlled Release (2003), 91(1-2), 187-200
CODEN: JCREEC; ISSN: 0168-3659
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Four structurally related, acid-labile polyethylene glycol (PEG) conjugated vinyl ether lipids have been synthesized and used at low molar ratios to stabilize the nonlamellar, highly fusogenic lipid, dioleoylphosphatidyl ethanolamine, as unilamellar liposomes. Acid-catalyzed hydrolysis of the vinyl ether bond destabilized these liposomes by removal of the sterically-stabilizing PEG layer, thereby promoting contents release on the hours timescale at pH<5. Structure-property correlations of these compds. suggested that single vinyl ether linkages between the PEG headgroup and the lipid backbone produce faster leakage rates. These studies also suggested that the presence of a slight neg. charge at the membrane surface can accelerate the acid-catalyzed leakage process.

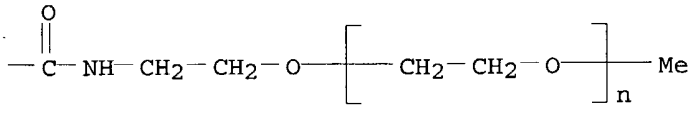
IT **676478-01-6P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(acid-triggered release via dePEGylation of DOPE liposomes containing acid-labile vinyl ether PEG-lipids)

RN 676478-01-6 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-[[(9Z,24Z)-13-[(9Z)-9-octadecenyloxy]-4-oxo-5,11,15-trioxa-3-azatritriaconta-9,24-dien-1-yl]oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

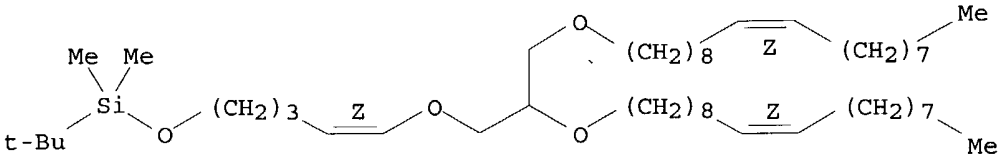


IT **676477-95-5P 676477-96-6P 676477-97-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(acid-triggered release via dePEGylation of DOPE liposomes containing acid-labile vinyl ether PEG-lipids)

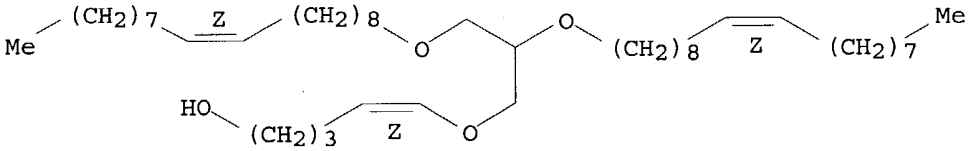
RN 676477-95-5 HCAPLUS
CN 4,10,14-Trioxa-3-siladotriaconta-8,23-diene, 2,2,3,3-tetramethyl-12-[(9Z)-9-octadecenyloxy]-, (8Z,23Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 676477-96-6 HCAPLUS
CN 4-Penten-1-ol, 5-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-, (4Z)- (9CI) (CA INDEX NAME)

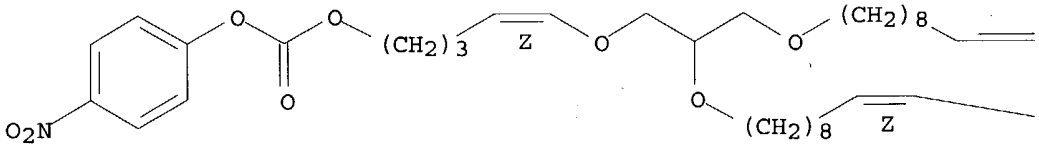
Double bond geometry as shown.



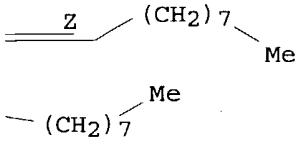
RN 676477-97-7 HCAPLUS
CN Carbonic acid, (4Z)-5-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-4-pentenyl 4-nitrophenyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

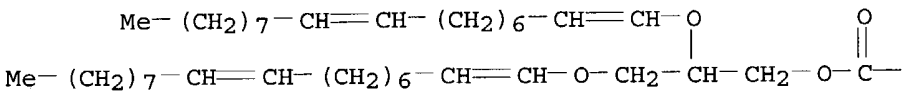
ACCESSION NUMBER: 2003:524302 HCAPLUS
DOCUMENT NUMBER: 139:209637
TITLE: Acid-Triggered Release from Sterically Stabilized Fusogenic Liposomes via a Hydrolytic DePEGylation Strategy
AUTHOR(S): Boomer, Jeremy A.; Inerowicz, Halina D.; Zhang, Zhi-Yi; Bergstrand, Nill; Edwards, Katarina; Kim, Jong-Mok; Thompson, David H.
CORPORATE SOURCE: Department of Chemistry, Purdue University, West Lafayette, IN, 47907-1393, USA
SOURCE: Langmuir (2003), 19(16), 6408-6415
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel acid-labile poly(ethylene glycol) (PEG)-conjugated lipid, (R)-1,2-di-O-(1'Z,9'Z-octadecadienyl)-glyceryl-3-(ω-methoxy-poly(ethylene glycolate), MW5000) (BVEP), a neutral PEG-derivatized analog of diplasmenylcholine, has been used at low molar ratios to disperse the nonlamellar, fusogenic lipid 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (DOPE) as unilamellar liposomes. It was anticipated that acid-catalyzed hydrolysis of the vinyl ether linkages would destabilize BVEP/DOPE liposomes by removal of the water-soluble, sterically stabilizing PEG layer, thereby promoting contents release and membrane-membrane fusion. This paper describes the hydrolysis rates, contents release rates, and fusion kinetics of BVEP-stabilized DOPE liposomes at 1:99, 3:97, and 5:95 molar ratios of BVEP/DOPE. Calcein leakage kinetics indicate that 3:97 BVEP/DOPE liposomes offer the best stability at pH 7.4 while retaining favorable leakage properties at pH 4.5 (t50%release ≈ 4 h). N-Rhodamine phosphatidylethanolamine/N-nitrobenzoxadiazole phosphatidylethanolamine lipid mixing assays show that membrane fusion occurs on a much slower time scale than leakage in these systems, with .apprx.12% lipid mixing occurring over a 24 h time period at pH 2.0. No appreciable membrane fusion occurred in these liposomes at either pH 7.4 or 4.5 when monitored for up to 3 days. 31P NMR spectra at pH 7.4 contain a single isotropic line shape, consistent with the presence of large liposomes. The 31P NMR line shape did not change significantly even after long exposure times at pH 4.0; however, Mn2+ addition expts. with acid-treated samples produced line-broadened spectra, indicating that all the phosphorus sites were continuous with the bulk water phase. Time-dependent cryogenic TEM expts. indicate that extensive liposome collapse to give small dense aggregates occurs over a 1-4 h period when 3:97 BVEP/DOPE liposomes are acidified to pH 4.5. Taken together, these results suggest that acid-catalyzed hydrolysis of BVEP/DOPE liposomes does result in dePEGylative triggering; however, the primary outcome of this cleavage process is contents leakage and liposome collapse to give <100 nm particles that are presumed to be inverted hexagonal phase structures, with membrane lipid mixing occurring on a kinetically slower time scale.

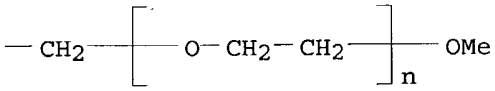
IT **237056-02-9**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(fusogenic lipid BVEP/DOPE can stabilize DOPE lamellar phase in liposome membrane)

RN 237056-02-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(2R)-2,3-bis[(1Z,9Z)-1,9-octadecadienyloxy]propoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:499291 HCAPLUS
DOCUMENT NUMBER: 140:169365
TITLE: Interactions between pH-sensitive liposomes and model membranes
AUTHOR(S): Bergstrand, Nill; Arfvidsson, Maria C.; Kim, Jong-Mok; Thompson, David H.; Edwards, Katarina
CORPORATE SOURCE: Department of Physical Chemistry, Uppsala University, Uppsala, S-751 23, Swed.
SOURCE: Biophysical Chemistry (2003), 104(1), 361-379
CODEN: BICIAZ; ISSN: 0301-4622
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

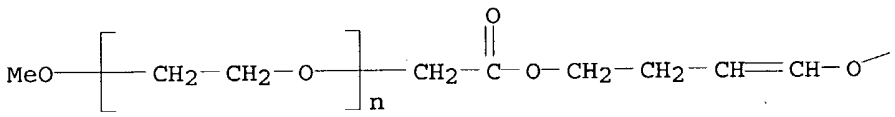
AB The structure and dynamics of two different pH-sensitive liposome systems were investigated by means of cryotransmission electron microscopy and different photophys. techniques. Both systems consisted of dioleoylphosphatidylethanolamine (DOPE) and contained either oleic acid (OA) or a novel acid-labile polyethylene glycol-conjugated lipid (DHCho-MPEG5000) as stabilizer. Proton induced leakage, lipid mixing and structural changes were studied in the absence and presence of EPC liposomes, as well as in the presence of liposomes designed to model the endosome membrane. Neither DHCho-MPEG5000- nor OA-stabilized liposomes showed any tendency for fusion with pure EPC liposomes or endosome-like liposomes composed of EPC/DOPE/SM/Cho (40/20/6/34 mol.). Our investigations showed, however, that incorporation of lipids from the pH-sensitive liposomes into the endosome membrane may lead to increased permeability and formation of non-lamellar structures. Taken together the results suggest that the observed ability of DOPE-containing liposomes to mediate cytoplasmic delivery of hydrophilic mols. cannot be explained by a mechanism based on a direct, and non-leaky, fusion between the liposome and endosome membranes. A mechanism involving destabilization of the endosome membrane due to incorporation of DOPE, seems more plausible.

IT **321674-35-5**
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(interactions between pH-sensitive liposomes and model membranes)

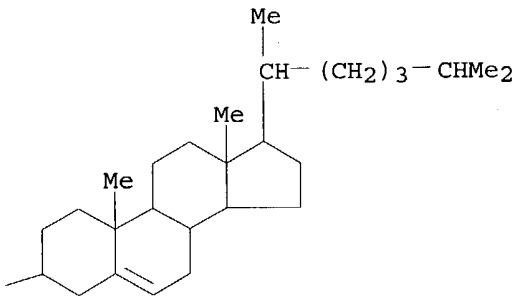
RN 321674-35-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(3Z)-4-[(3β)-cholest-5-en-3-

yloxy]butoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:63802 HCAPLUS
DOCUMENT NUMBER: 134:136683
TITLE: Vinyl ether lipids with cleavable hydrophilic headgroups
INVENTOR(S): Thompson, David H.; Boomer, Jeremy A.; Haynes, Robert
PATENT ASSIGNEE(S): Purdue Research Foundation, USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001005375	A1	20010125	WO 2000-US19430	20000717

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1202714 A1 20020508 EP 2000-947445 20000717

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

PRIORITY APPLN. INFO.: US 1999-144301P P 19990716
US 1999-146552P P 19990730
WO 2000-US19430 W 20000717

OTHER SOURCE(S): MARPAT 134:136683

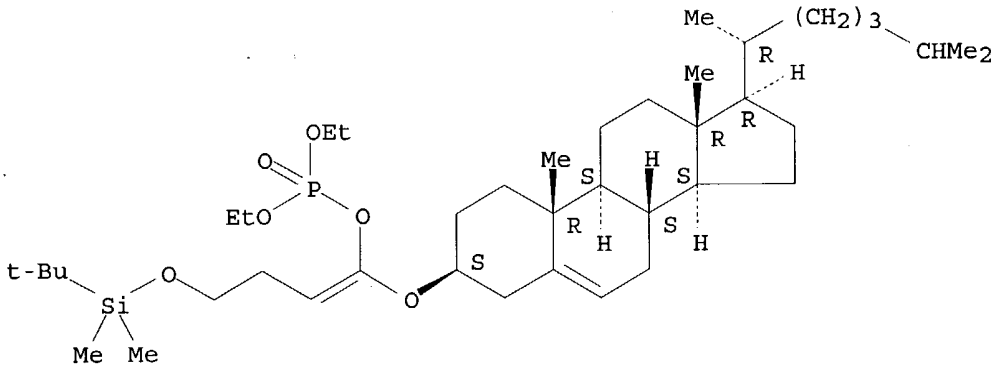
AB A novel amphiphilic lipid compound having a cleavable, vinyl ether linked hydrophilic headgroup is described. Also described are liposomes containing the vinyl ether lipid compound, which may be triggered to release their contents and/or permeabilize or fuse with target lipid membranes. The cleavable vinyl ether linkage allows the hydrophilic headgroup to be dissociated from the hydrophobic tail group(s) of the lipid compound to facilitate phase transitions in the lipid bilayer. Thus, 4-O-cholesteryl-(3Z-buten-1yl)-polyethylene glycolate (I) was prepared by the reaction of cholestoxy-3Z-buten-1-ol with M-PEG-acid. Pharmaceutical liposomes comprising 1,2-dioleoyl-sn-glycerophosphoethanolamine:I (98:2) and calcein were prepared Calcein release at pH = 4.5 and 7.4 in the presence and absence of of egg phosphatidylcholine was studied.

IT **321674-32-2P 321674-33-3P 321674-34-4P**
321674-38-8P 321674-39-9P 321674-40-2P
321674-42-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(vinyl ether lipids with cleavable hydrophilic headgroups)

RN 321674-32-2 HCAPLUS

CN Phosphoric acid, 1-[(3β)-cholest-5-en-3-yloxy]-4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-1-butenyl diethyl ester (9CI) (CA INDEX NAME)

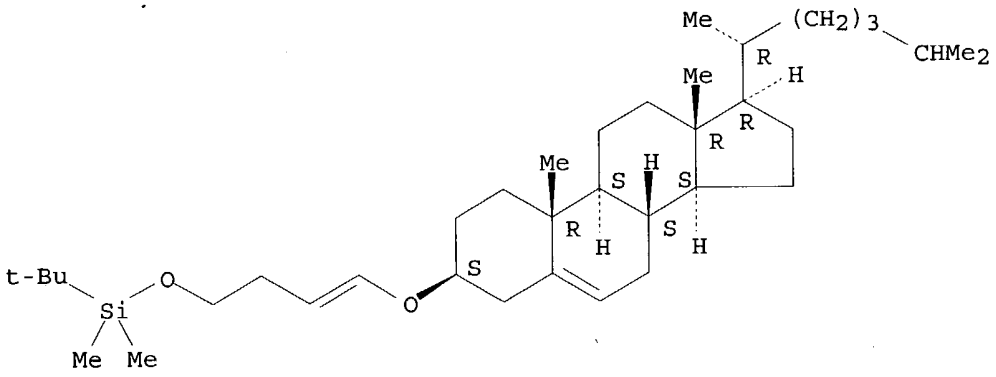
Absolute stereochemistry.
Double bond geometry unknown.



RN 321674-33-3 HCAPLUS

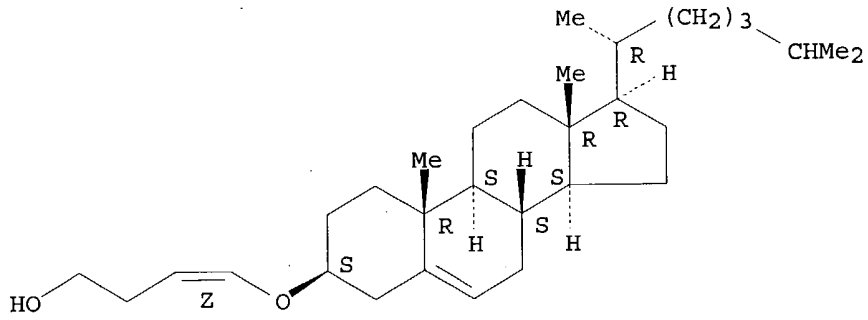
CN Silane, [[4-[(3β)-cholest-5-en-3-yloxy]-3-butenyl]oxy](1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



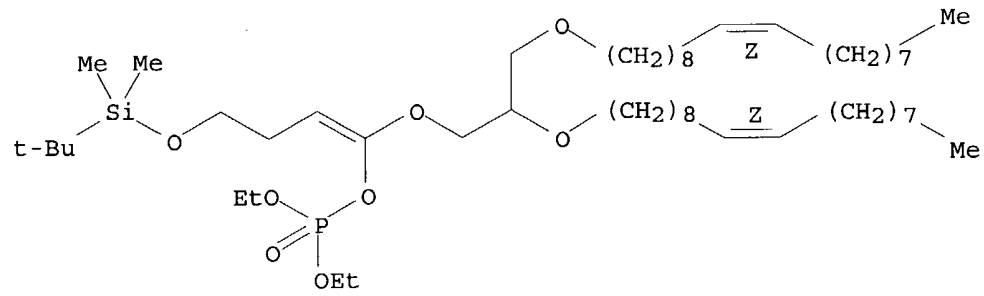
RN 321674-34-4 HCAPLUS
CN 3-Buten-1-ol, 4-[(3β)-cholest-5-en-3-yloxy]-, (3Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



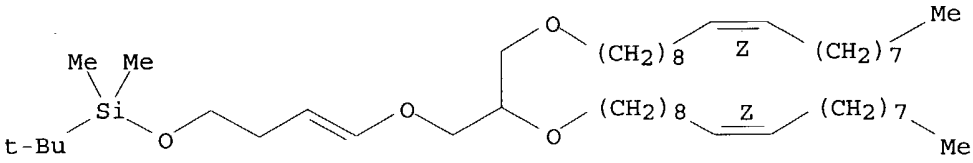
RN 321674-38-8 HCAPLUS
CN Phosphoric acid, 1-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-1-butenyl diethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



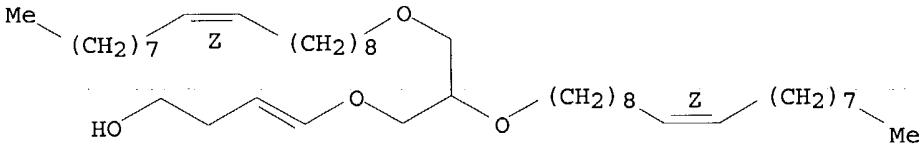
RN 321674-39-9 HCAPLUS
CN 4,9,13-Trioxa-3-silahentriaconta-7,22-diene, 2,2,3,3-tetramethyl-11-[(9Z)-9-octadecenyloxy]-, (22Z)- (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



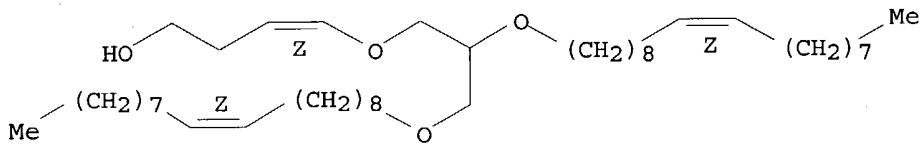
RN 321674-40-2 HCAPLUS
CN 3-Buten-1-ol, 4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as described by E or Z.



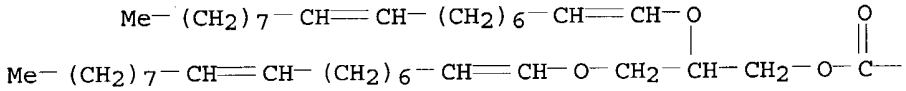
RN 321674-42-4 HCAPLUS
CN 3-Buten-1-ol, 4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-, (3Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

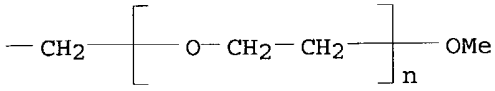


IT **237056-02-9P 321674-35-5P 321674-41-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(vinyl ether lipids with cleavable hydrophilic headgroups)
RN 237056-02-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(2R)-2,3-bis[(1Z,9Z)-1,9-octadecadienyloxy]propoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A

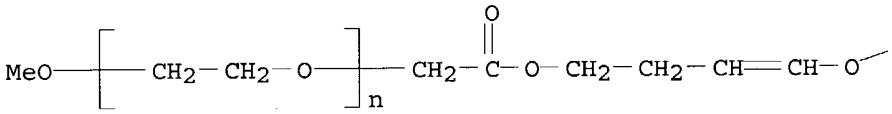


PAGE 1-B

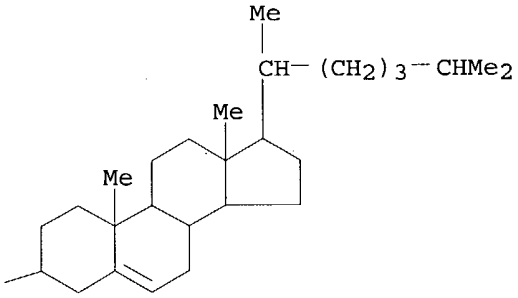


RN 321674-35-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(3Z)-4-[(3β)-cholest-5-en-3-yloxy]butoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A

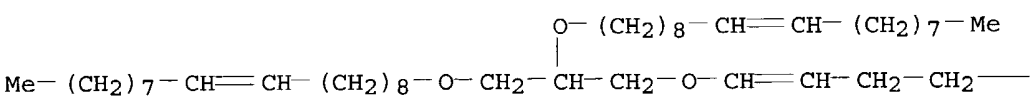


PAGE 1-B

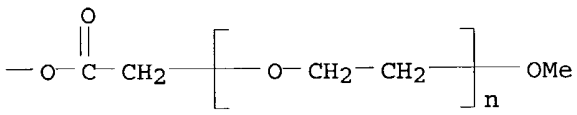


RN 321674-41-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[[(3Z)-4-[2,3-bis[(9Z)-9-octadecenyloxy]propoxy]-3-butenyl]oxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

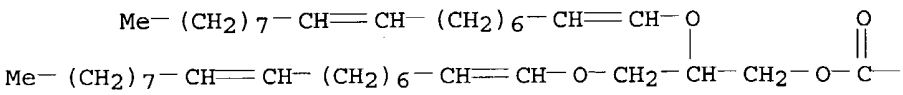
L30 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:311501 HCAPLUS
DOCUMENT NUMBER: 131:157584
TITLE: Synthesis of acid-labile diplasmenyl lipids for drug and gene delivery applications
AUTHOR(S): Boomer, Jeremy; Thompson, David H.
CORPORATE SOURCE: Department of Chemistry, Purdue University, West Lafayette, IN, USA
SOURCE: Chemistry and Physics of Lipids (1999), 99(2), 145-153
CODEN: CPLIA4; ISSN: 0009-3084
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

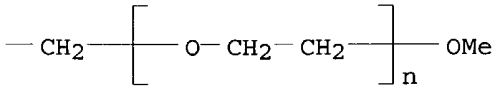
AB The low pH environments characteristic of endosomal compartments and ischemic tissues provide an intrinsic pathway for triggering site-specific contents release from appropriately designed delivery vehicles. Accordingly, research in this group has focused on the design, synthesis and application of novel acid-sensitive lipids that will undergo facile lamellar (Lα) to hexagonal (HII) phase transitions within these acidic sites. Previously, it has been demonstrated that plasmenylcholine-type lipids have excellent acid hydrolysis and contents release kinetics (Gerasimov et al., 1997). This paper describes the synthesis of three new acid sensitive lipids, based on a chiral 1,2-di-O-(1Z',9Z'-octadecadienyl)-sn-glycerol (I) platform, displaying phosphocholine (II), poly(ethyleneoxide) (III), and O-carbamoyl-N-diethylenetriamine (IV) headgroups. Intermediate I was obtained in 28% overall yield via a six step synthesis from (S)-(+)-2,2-dimethyl-1,2-dioxolane-4-methanol. Subsequent conversion to the final products was achieved in moderate (II and IV) to excellent yields of III.

IT **237056-02-9P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of acid-labile diplasmenyl lipids for drug and gene delivery applications)

RN 237056-02-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-[(2R)-2,3-bis[(1Z,9Z)-1,9-octadecadienyloxy]propoxy]-2-oxoethyl]-ω-methoxy- (9CI) (CA INDEX NAME)

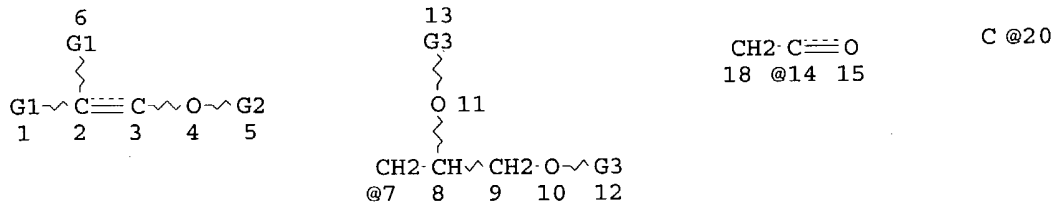
PAGE 1-A

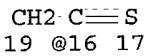




REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
=> d que stat l30
L1                STR
```

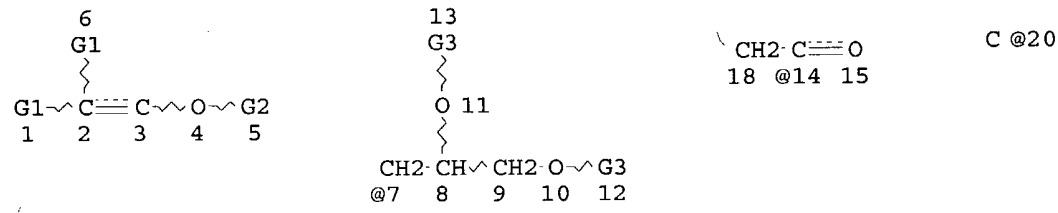


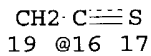



```
VAR G1=H/C
VAR G2=7/20
VAR G3=C/14/16
NODE ATTRIBUTES:
NSPEC   IS R       AT  20
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  20

STEREO ATTRIBUTES: NONE
L2  (    115345)SEA FILE=HCAPLUS ABB=ON  ?LIPOSOME? OR ?VESICLE?
L3  (      2141)SEA FILE=HCAPLUS ABB=ON  L2 AND ?HYDROPHIL?
L4                STR
```






```
VAR G1=H/C
VAR G2=7/20
VAR G3=C/14/16
NODE ATTRIBUTES:
NSPEC   IS R       AT  20
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  20

STEREO ATTRIBUTES: NONE
```

```
L5                SEL  L3 1-2141 RN :    8452 TERMS
L6   (       8450)SEA FILE=REGISTRY ABB=ON  L5
L7   (         10)SEA FILE=REGISTRY SUB=L6 SSS FUL L4
L8   (          4)SEA FILE=HCAPLUS ABB=ON  L7
L9                SEL  L2 5000-9999 RN :   46572 TERMS
L10  (      46572)SEA FILE=REGISTRY ABB=ON  L9
L11  (          6)SEA FILE=REGISTRY SUB=L10 SSS FUL L4
L12             5 SEA FILE=HCAPLUS ABB=ON  L11 OR L8
L13        115345 SEA FILE=HCAPLUS ABB=ON  ?LIPOSOME? OR ?VESICLE?
L25               TRANSFER  L13 18000-22775 RN :   30518 TERMS
L26         30518 SEA FILE=REGISTRY ABB=ON  L25
L28            10 SEA FILE=REGISTRY SUB=L26 SSS FUL L1
L29             4 SEA FILE=HCAPLUS ABB=ON  L28
L30             5 SEA FILE=HCAPLUS ABB=ON  L12 OR L29
```